

<http://www.forbes.com/sites/jasondelisle/2014/08/20/a-fiscal-reckoning-for-oregons-pay-it-forward/>

# A Fiscal Reckoning for Oregon's 'Pay It Forward'

Remember Oregon's "Pay It Forward" plan? Students would attend college with no upfront tuition charges and instead pay a small share of their earnings after they left school for about 20 years. In essence the plan was a new way to channel revenue to higher education. It levied a graduate tax on anyone who used public higher education and then earmarked those revenues right back to funding more higher education.

The idea is quite elegant, but it has a major financial blind spot—one that got the better of many advocates and the press as they gushed over the idea. This month, Pay It Forward suffered a [serious setback](#) after the panel charged with conducting a feasibility study of the plan realized that the state of Oregon cannot bend the laws of public finance. As such, Pay It Forward would be expensive and probably isn't going anywhere. For 4,000 annual enrollees, Pay it Forward would need fresh cash each year for 20 years, peaking at [\\$20 million](#) a year. Two decades in, the plan would then flip to surplus.

Surely, many are wondering: How could Pay It Forward be so expensive if students would be paying for their own educations, perhaps even more than they do now? The answer is that it costs money to move money through time. Pay It Forward enthusiasts often ignored this fundamental law of finance.

Under the plan, students would not pay their tuition now, but slowly over many years in the future. Meanwhile, universities providing the educations—and the people who work there or provide schools with goods and services—want to be paid now. A timing and funding gap thus emerges.

To fill the gap, Pay It Forward requires that either Oregon raise taxes now to fund the plan, or that the state borrow by issuing bonds to fund the difference. Both approaches impose big costs on taxpayers. Even if Pay It Forward graduates ultimately generate lots of new revenue when they pay the graduate tax, the issue is what happens in the meantime.

Assume that Oregon finances the entire funding gap with bonds backed by the eventual graduate tax revenue or the state's general revenues. Oregon is using the bonds to move money through time. Bond investors charge interest for that service because they've temporarily given up the use of their money and want to be compensated. Theoretically, Oregon would have to make frequent interest payments on those bonds while it waited for new revenue from Pay It Forward graduates to come in. That means taxes must go up, or existing revenue must be diverted. Furthermore, the costs from cohort after cohort of 20-year bonds paying 5 percent interest would almost surely swamp the future revenue students could pledge.

Suppose Oregon doesn't use bonds and instead finances the entire funding gap by raising taxes now. For today's taxpayers in Oregon, Pay It Forward is then no different than a tax increase to finance free college tuition. Sure, in theory students may eventually pay *Oregon* back, but that is cold comfort for the taxpayers whose taxes go up *today* and remain there for the next 20 years.

Say Oregon doesn't borrow the money or raise taxes to finance the funding gap inherent in Pay It Forward. Instead,

the state simply diverts existing revenues to cover the costs. That pits Pay It Forward against umpteen other things that the Oregon legislature spends money on now, which should have a familiar ring.

The root of our higher education finance struggles is that there is only so much money to go around. Policymakers need to make tough choices on where and how to use it. Too many who supported Pay It Forward or wrote about it favorably seemed to believe that the plan would make that reality go away.

*UPDATE: This post was corrected. The original version stated that cost projections were for 1,000 enrollees when the correct figure is 4,000.*

<b>Title</b>	<b>HCM Strategists Recommendations</b>
<b>Staff lead:</b>	Marc Webster, Rachelle Sharpe
<b>Position</b>	Senior Fiscal Advisor and Senior Student Financial Aid & Support Director
<b>Email:</b>	<a href="mailto:marcw@wsac.wa.gov">marcw@wsac.wa.gov</a> , <a href="mailto:rachelles@wsac.wa.gov">rachelles@wsac.wa.gov</a>
<b>Phone:</b>	360.753.7872
<b>Synopsis:</b>	HCM Strategists is a national consultant assisting the Student Achievement Council. HCM will develop higher education funding options and recommendations for the design of the State Need Grant program. Kristin Conklin, founding partner, will present HCM's recommendations.
<b>Guiding questions:</b>	Which funding recommendations should be included in the Strategic Action Plan? Which State Need Grant options should be emphasized in the SNG Review (will be discussed again in October)?
<b>Possible council action:</b>	<input checked="" type="checkbox"/> Information Only <input type="checkbox"/> Approve/Adopt <input type="checkbox"/> Other: _____
<b>Documents and attachments:</b>	<input checked="" type="checkbox"/> Brief/Report <input checked="" type="checkbox"/> PowerPoint <input type="checkbox"/> Third-party materials <input type="checkbox"/> Other



# POLICY OPTIONS FOR AFFORDABILITY AND STATE NEED GRANT

*Washington Student Achievement Council, August 21, 2014*

*Kristin Conklin*

*Founding Partner, HCM Strategists*

1156 15th Street NW, Suite 850, Washington, DC 20002  
202.547.2222 (phone) • 202.547.2224 (fax)

[WWW.HCMSTRATEGISTS.COM](http://WWW.HCMSTRATEGISTS.COM)

ALIGN. ADVOCATE. ADVANCE.

# Questions to Be Addressed

*Given Washington's current tuition and financial aid structure, what are the state's policy options to increase opportunity for resident students?*

*What are options to develop a comprehensive higher education funding policy that is predictable for students and families and maintains funding and flexibility for institutions?*

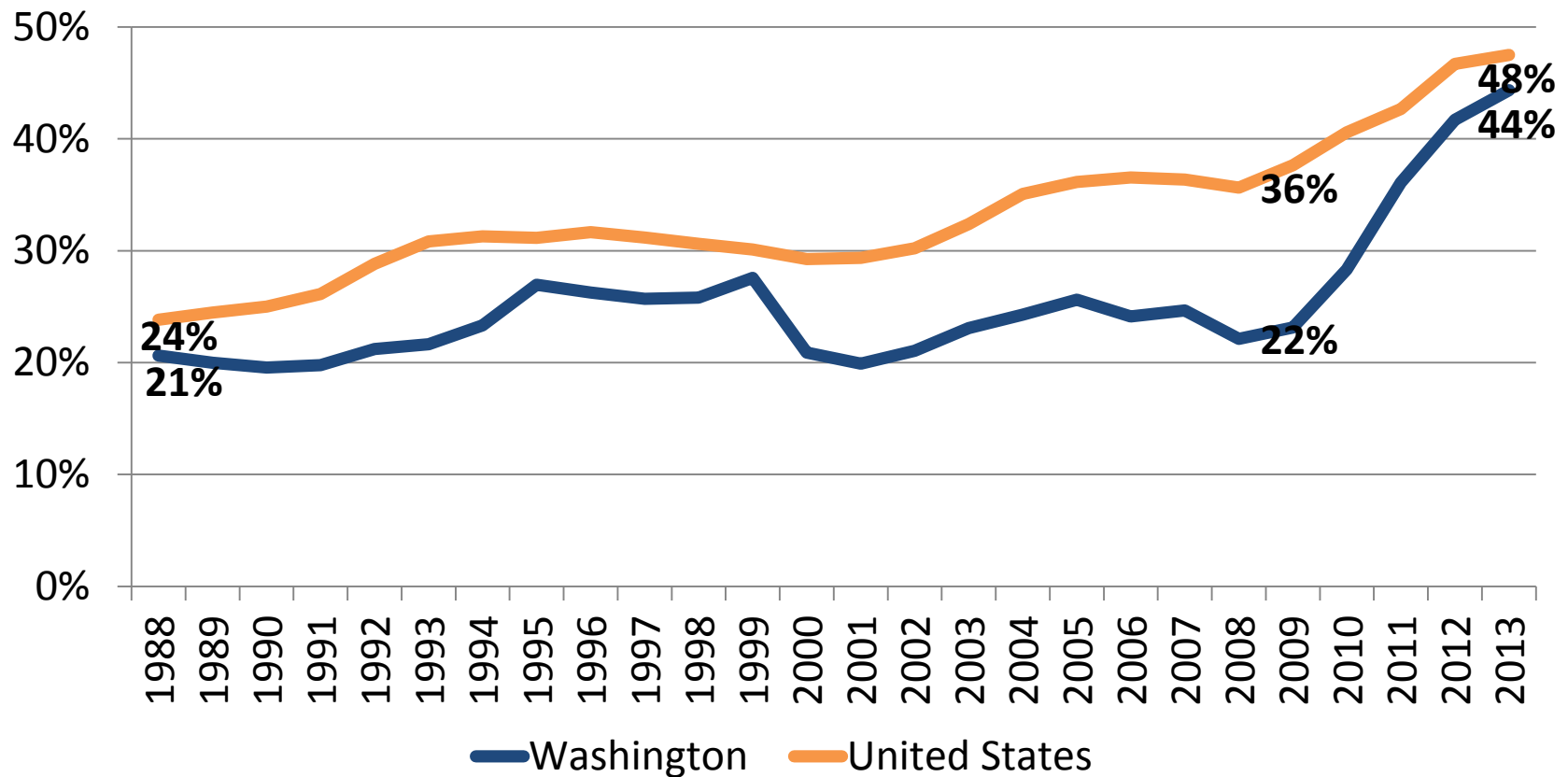
*Within State Need Grant:*

- Should more students be served within existing funds?*
- Are grant dollars targeted in a way that maximizes student success?*
- Should the state continue to use the secondary median family income?*
- Should awards continue to be tied to public tuition?*
- Should any of the policies be modified to support student success?*

# Context for These Questions

- “Roadmap” for education with 70% postsecondary attainment goal
- New funding landscape: tuition = 44% (or more) of public higher education revenues in FY 2013 vs. 22% in FY 2008
- \$1,000 increase in two-year, \$4,000 increase in four-year tuition in constant dollars (current two-year freeze)
- 1<sup>st</sup> in nation in need-based financial aid/FTE
- But... State Need Grant budget no longer keeps up with its design

# Washington's Shift to Students Happened Quickly: Five-Year Change Similar to National Change over 25 Years



Source: State Higher Education Executive Officers Finance Survey 2013



# Affordability Option 1: Clarify the Policy and Funding Framework

- Establish a common framework for affordability that allows for clear, evidence-based discussion of policy options, even among those who disagree
- Key terms / concepts
  - Costs
  - Resources
  - Affordability = Balance between students' costs and their resources
  - Students = All current and potential future WA students, not just those currently enrolled and/or eligible
- Examples: Minnesota, California

Costs

# Possible Framework

- **Level I: Unaffordability.** A student or family is unable to access even one viable pathway to a bachelor's degree because of resource constraints.
- **Level II: Minimal affordability.** A student or family has the resources for at least one viable pathway to a bachelor's degree, including significant part-time work and student loans.
- **Level III: Moderate affordability.** A student or family has the resources they need to choose among several higher options, including light part-time work and modest levels of loans; some options may still be too expensive.
- **Level IV: Total affordability.** A student or family has the resources to make choices among all available higher education options for which they are qualified, with no need for part time work or student loans.

# Estimating Full Costs

- Institutions' costs (not same as tuition)
- Students' other costs (books, supplies, cost of living/lost wages)
- Full length of program (e.g. 2 years for associate degree, 4 years for bachelor's)
- All potential Washington students (not just those currently served)

# What Costs Are Part of Affordability Equation? *Institutions' Annual Costs*

Estimates of Institutions' Annual Undergraduate Education and Related Costs	2014
<i>Washington Residents Attending Out-of-State</i>	\$ 21,300
<i>Private Nonprofit Washington Colleges</i>	\$ 20,300
<i>Community and Technical Colleges</i>	\$ 8,900
<i>Regional Four-Year Universities and Evergreen</i>	\$ 10,900
<i>Research Universities</i>	\$ 18,400
<i>Average In-State Public Four-Year</i>	\$ 15,500

# What Costs Are Part of Affordability Equation?

## *Students' Annual Costs (Excluding Tuition)*

Estimates of Students' Annual Non-Tuition Costs	2014
<i>Books and Supplies</i>	<i>\$ 1,200</i>
<i>Living Wage / Cost of Living (after tax) * 9 Months</i>	<i>\$ 12,200</i>

*Note: For purposes of determining the net cost of higher education, economists usually recommend focusing on the “opportunity cost” of lost income. Potential students will still have housing, food, and transportation costs, whether or not they go to college, but enrolling in courses reduces the time they have available to work (about 3 hours per week for every credit hour taken).*

*For communicating to potential students, it is easier to use estimates of room and board costs. The “living wage” estimate for Washington from MIT’s living wage calculator provides a ballpark number that fills both purposes.*

*Wages from students’ part-time work while enrolled are one of the resources that could be taken into account to help pay the total cost of education (see next section on resources).*

# What Costs Are Part of Affordability Equation?

## *Total Estimated Cost of a Degree*

	Institution's Annual Cost	Students' Other Costs	Total Annual Cost	x Years	Total Estimated Cost for a Degree
One-Year Certificate (WCTCS)	\$ 8,900	\$ 13,400	\$ 22,300	1	<b>\$ 22,300</b>
Two-Year Associate Degree (WCTCS)	\$ 8,900	\$ 13,400	\$ 22,300	2	<b>\$ 44,600</b>
Four-Year Bachelor's Degree (WCTCS 2+2 with Regional)	\$ 9,900	\$ 13,400	\$ 23,300	4	<b>\$ 93,200</b>
Four-Year Bachelor's Degree (Regional Only)	\$ 10,900	\$ 13,400	\$ 24,300	4	<b>\$ 97,200</b>
Four-Year Bachelor's Degree (Public Research)	\$ 18,400	\$ 13,400	\$ 31,800	4	<b>\$ 127,200</b>
Four-Year Bachelor's Degree (WA Private Nonprofit)	\$ 20,300	\$ 13,400	\$ 33,700	4	<b>\$ 134,800</b>

# What Resources are Available to Pay the Costs?

## All Students

- State support through appropriations: pays part of cost and keeps tuition lower than it would otherwise be

## Some Students

- Parent/family resources
- Federal subsidies
  - Pell grants
  - Tax credits
- State financial aid programs
- Institutional/private financial aid

## Resources Available to Close Remaining Gaps

- Student self-help: work (on or off campus)
- Student self-help: loans

# Resources: State Support for Institutions

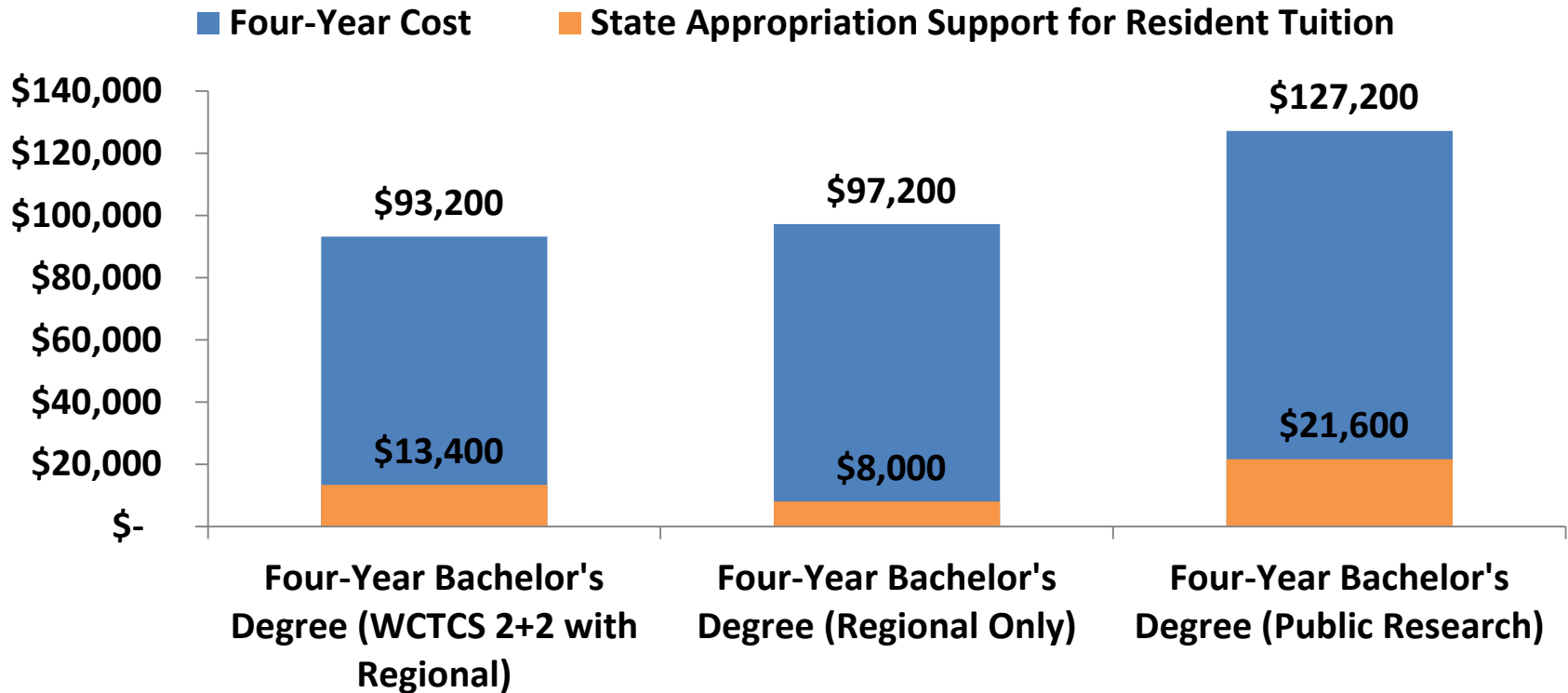
- Appropriations to institutions subsidize cost of education for in-state students
- The subsidy is the difference between full-time resident tuition and fees and institutions' estimated costs of education and related activities
- No limits on income, duration, academic qualifications
- States with high levels of state support (e.g. Wyoming) usually have lower tuition; states with lower levels of state support (e.g. New Hampshire) have higher tuition
- Declining appropriations have led institutions to raise tuition in Washington and elsewhere
- Some states, including Washington, have attempted to make the subsidy more explicit



# Estimating Level of Support from State Appropriation: Making the “Invisible Scholarship” Visible

	2013-14 Estimated Annual Institutional Cost		2013-14 Annual Tuition		Estimated Annual Support from State Appropriation
Community and Technical Colleges	\$ 8,900	-	\$ 4,200	=	\$ 4,700
Regional Four-Year Universities and Evergreen	\$ 10,900	-	\$ 8,900	=	\$ 2,000
Research Universities	\$ 18,400	-	\$ 13,000	=	\$ 5,400

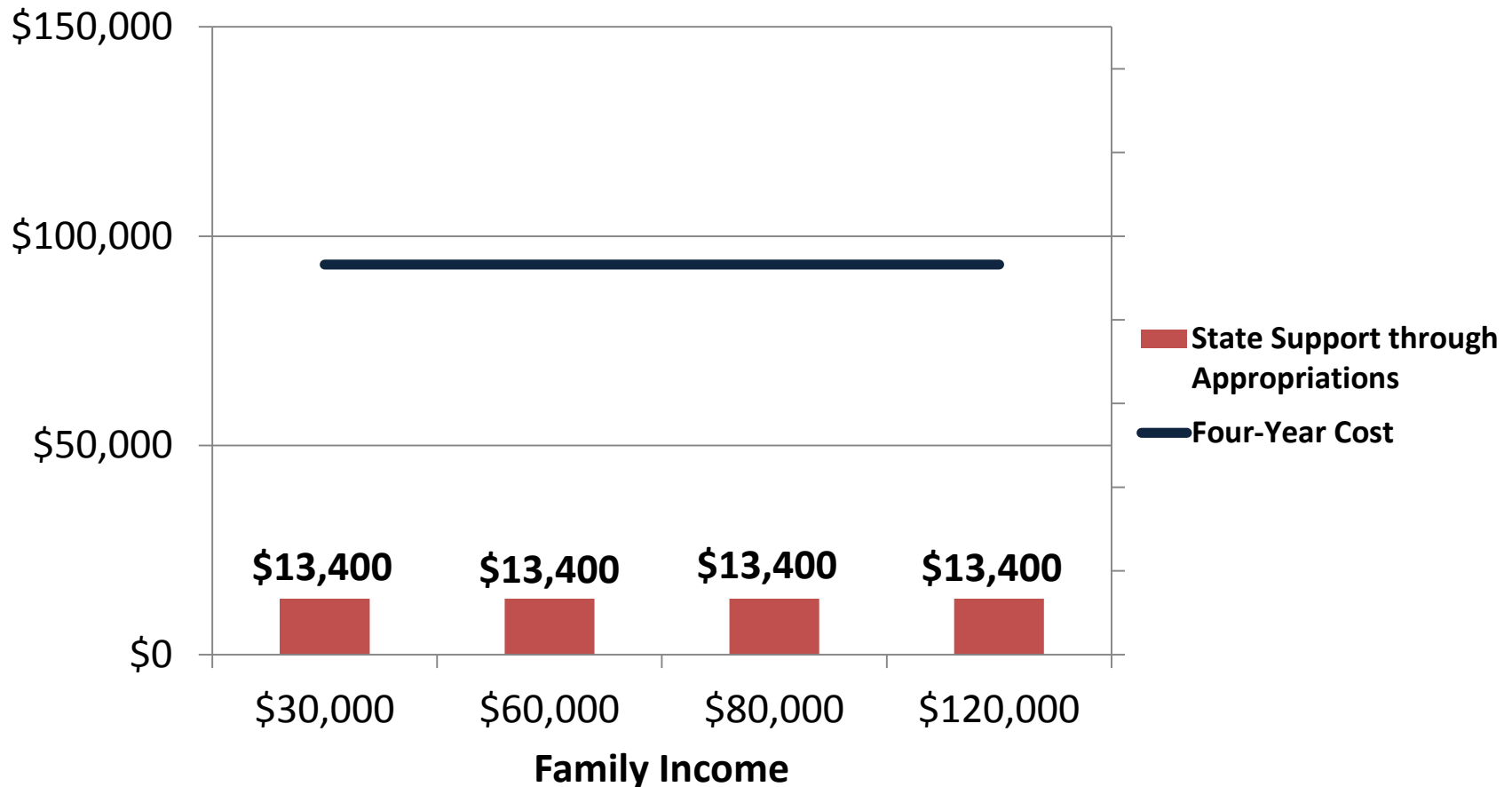
# Estimated Share of Cost Paid by State Through Appropriations



# Example of Gap Analysis

- Uses example of bachelor's degree, with first two years at a community or technical college, next two years at comprehensive university
- Total institutional and student cost estimate: \$93,200 for four years
- Different resources available at different income levels
- Round numbers approximate income benchmarks:
  - ~\$80,000 = Median family income (MFI)
  - ~\$60,000 = 70% MFI
  - ~\$30,000 = 35% MFI (many independent students would fall here, too)
  - ~\$120,000 = 150% MFI
- Examples only; different scenarios could be done for different pathways, student types
- Draws from Dr. James Fridley's affordability model, shared responsibility models in other states

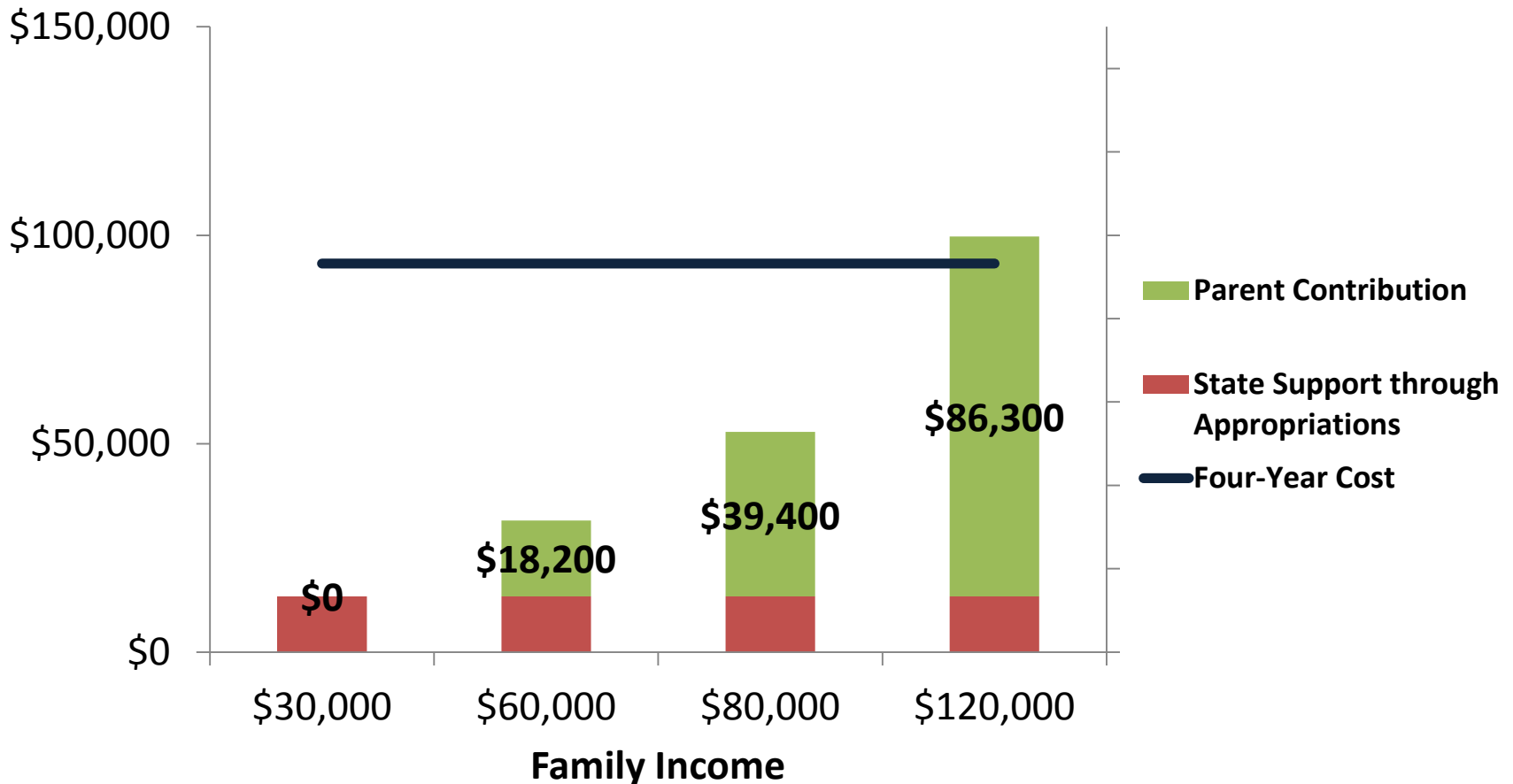
# Affordability Policy Lever: Level of State Support through Appropriations



# Resources Available: Parent Resources

- Federal, state and institutional aid programs usually consider parents' resources or income as a source of funds available to students (although the sticker price at public institutions has already been reduced)
- The "Estimated Family Contribution" has both a student and parent component
- Estimated parents' contribution in federal formula is based on income and assets, but could come in many ways: current parents' income, savings, borrowing, in-kind contributions (rent-free room and board)
- Formulas are an imperfect but probably necessary policy tool
- They inevitably under- or over-estimate actual need (for example, some higher-income parents refuse to contribute at all, while some lower-income parents may have friends or relatives who can contribute)

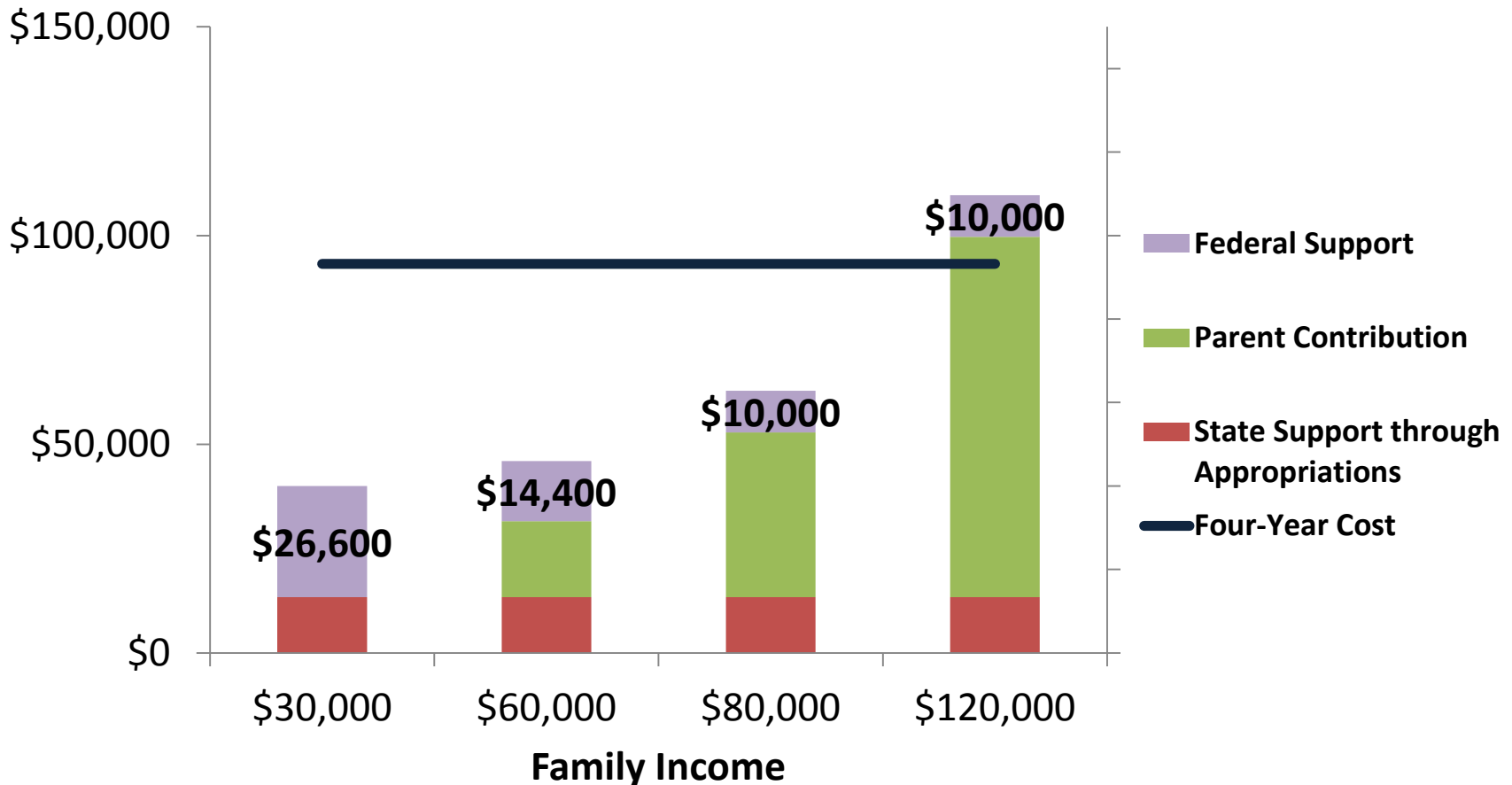
# How Much Are Parents Expected To Contribute (Income, Savings, Loans)?



# Resources Available: Federal Resources

- Federal programs are primarily income based
- Pell Grants are available to low-income students; they phase out between \$35-\$60,000 for a family of four with no assets
- American Opportunity Tax credits are available for four years to all students with family incomes up to \$160,000;
  - up to \$1,000 is “refundable”, so students can get refunds even if they owed no taxes;
  - larger amounts, up to \$2,500, require incomes high enough to owe tax (generally above Pell levels)
- Other programs are either relatively small or require work or repayment (e.g. subsidized student loans)
- A disadvantage of tax credits is that the money is not available at the time the bills come due

# How Much Is Available in Non-Repayable Federal Support? (Grants, Tax Credits)

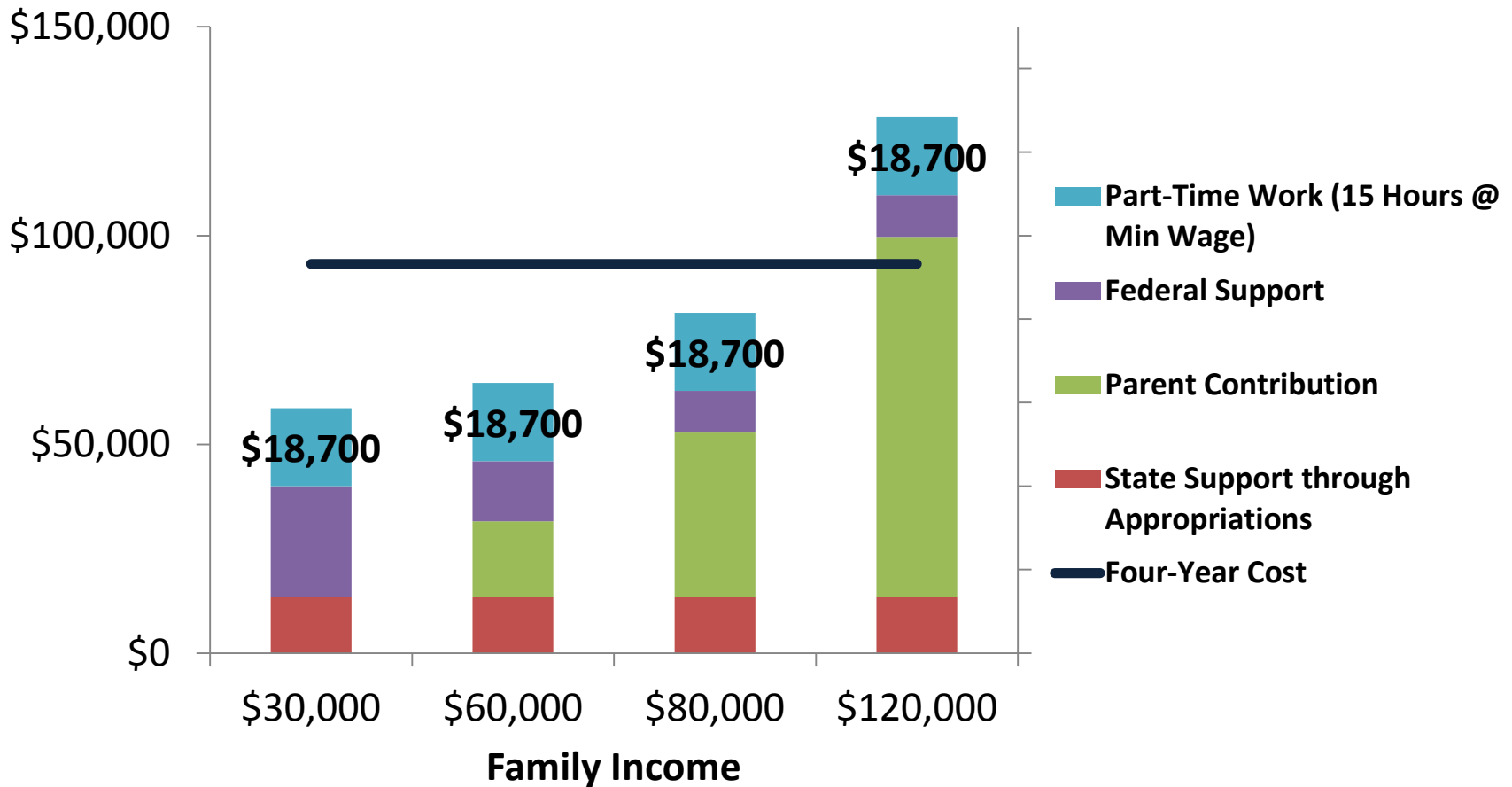




# Key policy / philosophy / budget questions for Washington

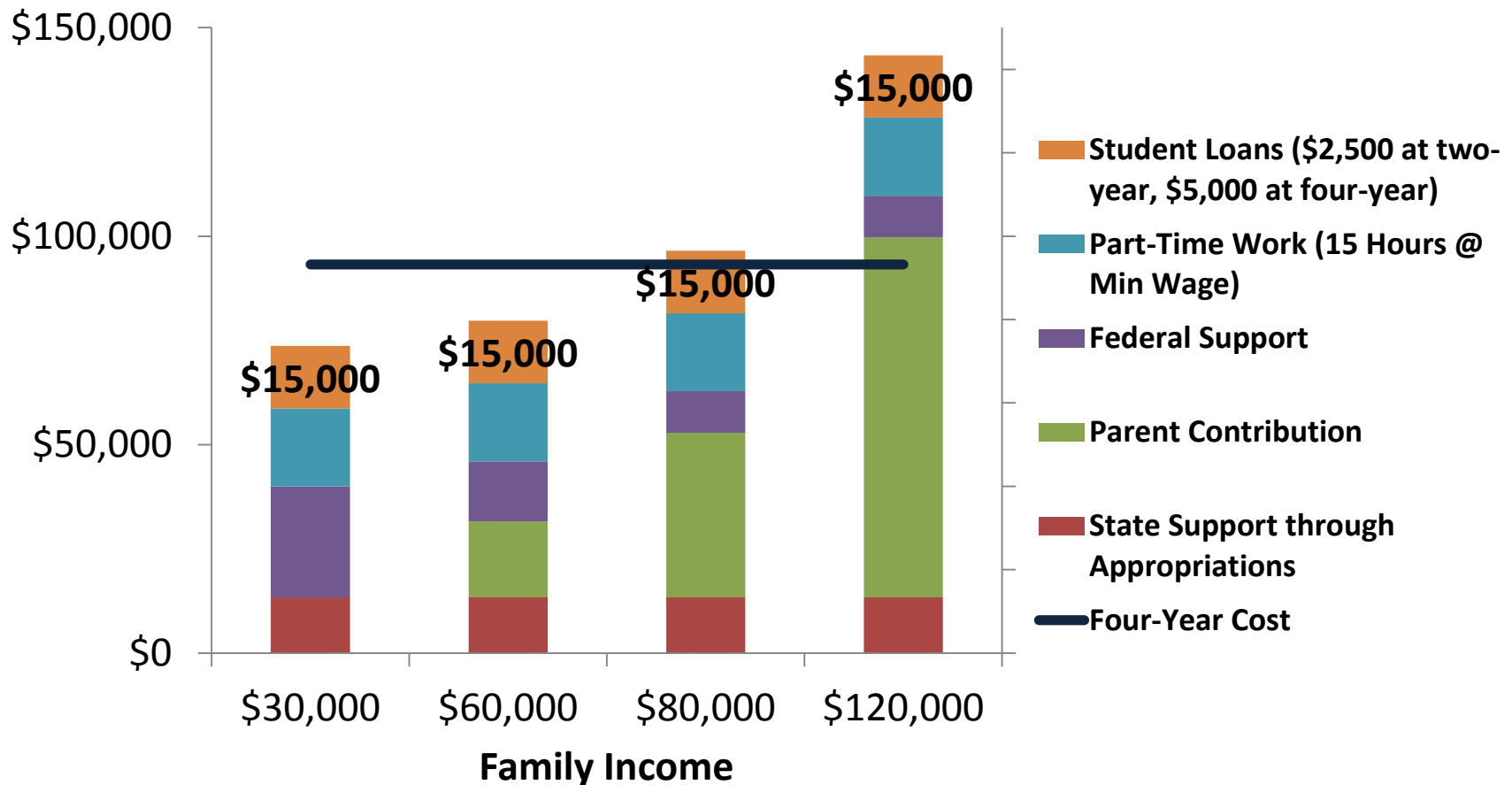
- How should remaining gaps be closed?
- What are roles of state, student, institutions, private philanthropy in closing affordability gaps?
- What is the maximum amount, if any, students would have to borrow that would still be considered “affordable”?
- What is the maximum number of hours students should be expected to work while enrolled full-time to help pay for college?
- Should institutions be asked to help close remaining gaps?
- If the state cannot or will not close all the gaps, how should it prioritize?

# Should Full-Time Students Be Expected to Work to Help Pay Costs? (E.g. 15 hrs/wk)



# Should Students Be Expected to Borrow?

## (Example: \$15,000 for a 2+2 degree)



# Affordability Option 2: Establish and Communicate Key concepts and Messages

## Examples:

*“Every student paying in-state tuition is getting financial aid from the state. Tuition is lower for state residents because every academically qualified Washington resident is entitled to a public higher education in which the state shares part of the cost.”*

*“Students may have to work while in college, but should not have to work so much that they can’t progress on time to a degree.”*

*“Many students will need to borrow to meet the costs of attending college, but should not have to borrow more than X at a public institution.”*

*“Families should start saving for college as soon as they have a child. The state has a guaranteed savings plan that allows for gradual payments and locks in the cost of college.”*

# Affordability Option 3: Use Budget to Drive Institutional Affordability

- Focus on institutions: outcomes-based funding for low-income student completion
- State determines ***what*** the public policy goals are; institutions figure out ***how*** to get there
- Institutions would have to be affordable to succeed
- Focus on filling gaps in existing funding incentives: graduating low-income students is not an easy or lucrative business proposition
- Example: Tennessee

# Affordability Option 4: Use Budget to Drive Student Affordability

- Focus on students: tighten links among appropriations, tuition, and aid programs so state policy is clear for current and potential students and families.
- State establishes what students' share of cost should be (could be dollars, percentage, or differentiated amounts by family income)
- Appropriations and aid programs would linked to those levels
- Institutional cost/efficiency agreements could be included
- Examples: Minnesota, New York

# Affordability Option 4: Focus on Timing of Payments/Resources

- Promote long term savings plans, such as GET / other 529 plans for all income levels; ensure that middle class families know that these are the primary affordability policies intended for them (and they are unlikely to qualify for need-based financial aid)
- Expand, clarify and promote short-term payment plan options
- Allow advance use of federal tax credit to pay expenses
- Provide emergency financing, short-term forbearance on outstanding balances

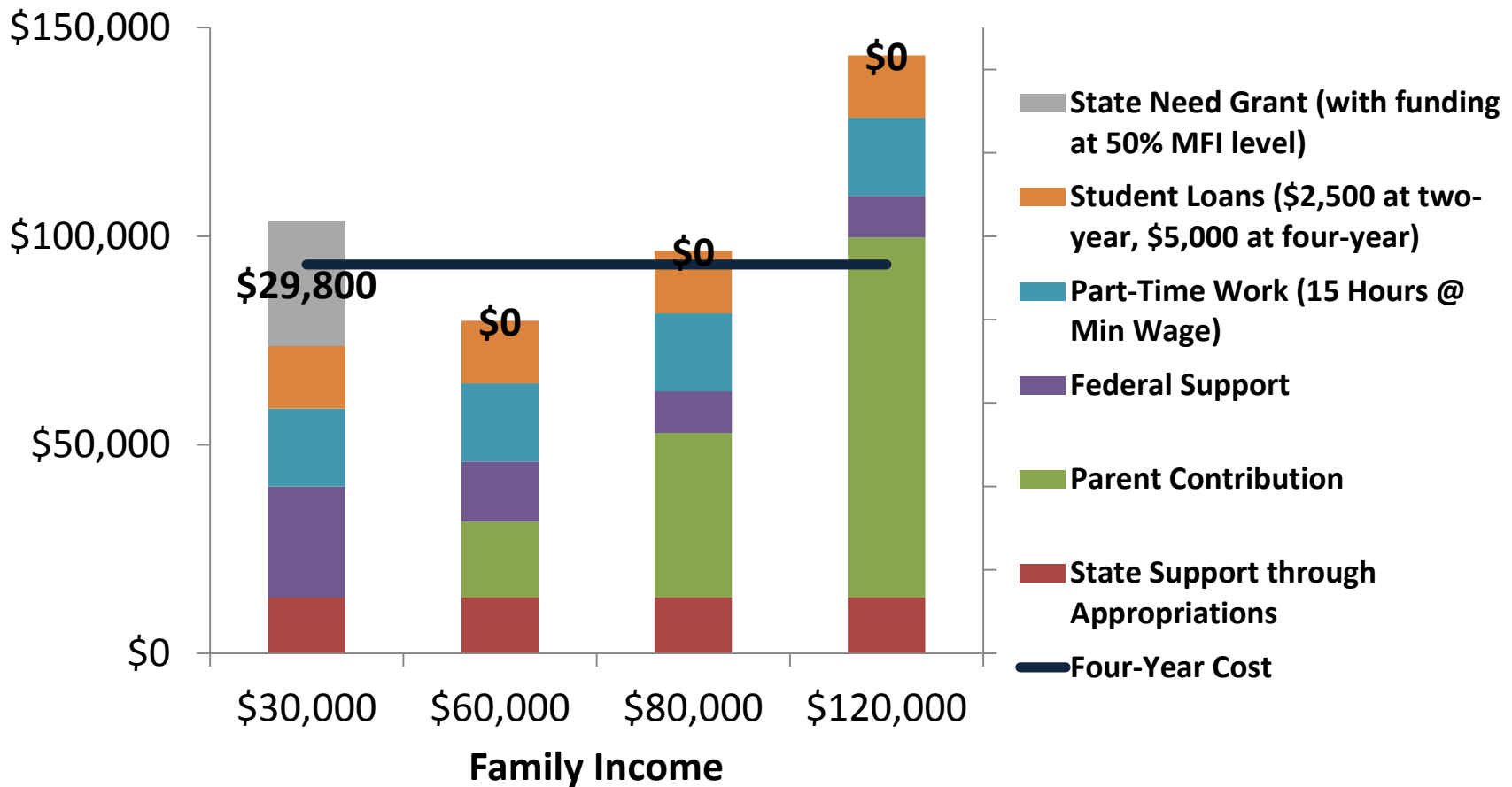
Examples: MDRC study, Oklahoma, Georgia State

# Options for Affordability with State Need Grant

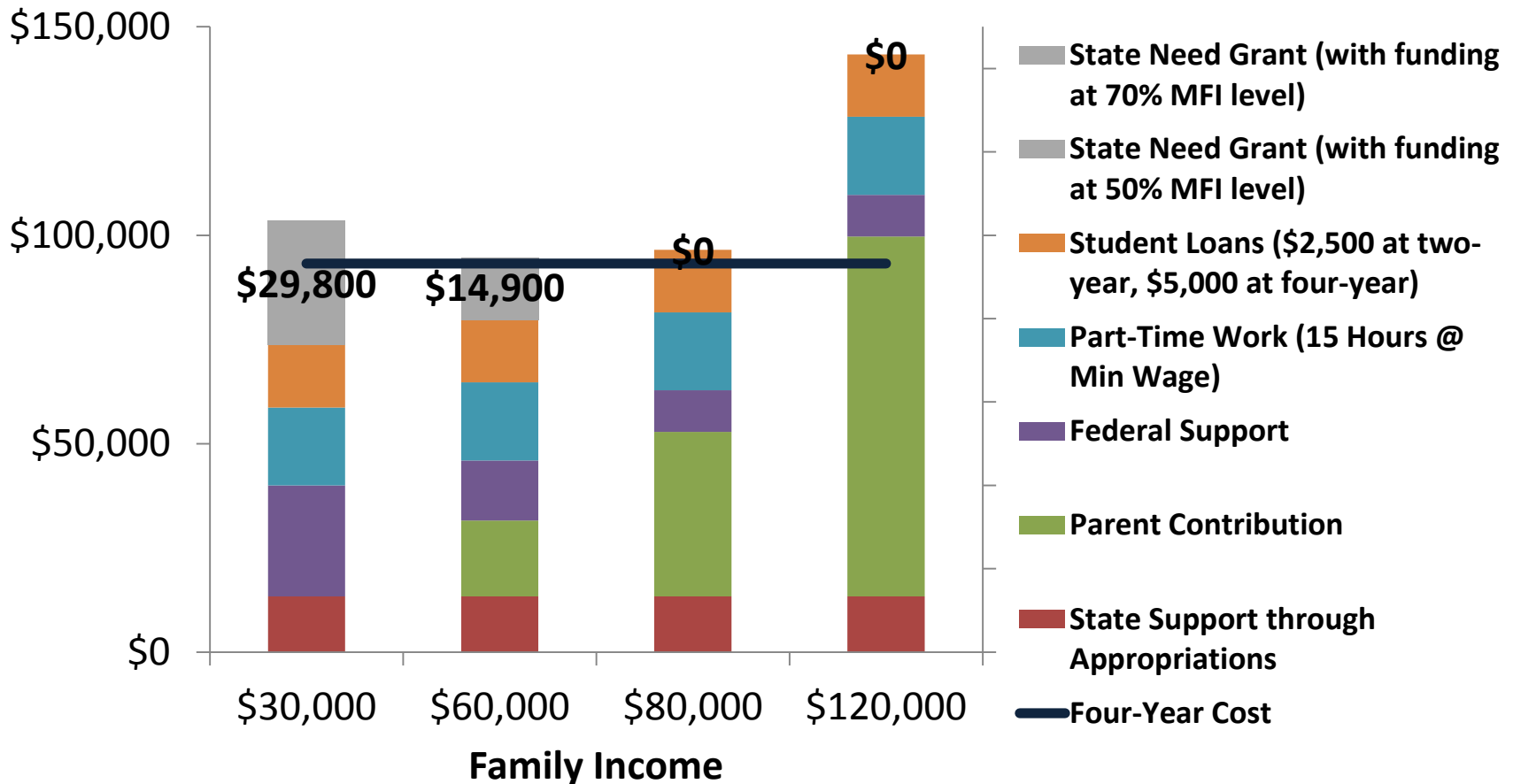
- SNG is Cornerstone of state's affordability strategy
- Design principles for 70% attainment goal
  - Target students whose odds of graduating increase the most with the award
  - Size awards for maximum impact within budget (e.g. giving a few students “full rides” while leaving big gaps for others is inefficient)
  - Make program as simple and transparent for students as possible
  - Leverage dollars as both incentive and support
  - Create predictability over time



# Role of Targeted Aid: State Need Grant if Awarded at 50% MFI Level



# State Need Grant if Awarded at 70% MFI Level



# State Need Grant: Findings and Observations

- Support for program (idea of need-based aid) is very strong
- Program is effective in improving retention and graduation
- Washington State Institute for Public Policy (WSIPP) study was consistent with rigorous research in other states
  - 25% change in award amount associated with 4-8 percentage point change in graduation rates
  - Importance of targeting students where impact is highest
- Other effects of aid or affordability strategies
  - High school preparation
  - College enrollment
  - Choice of institution
  - In-state retention

# State Need Grant: Findings and Observations

- Gap between funding and eligibility probably reduces effectiveness
  - No transparency for students: they do not know if they will get award until after they have made their plans
  - Limits impact on pre-enrollment planning, goal-setting
- Median Family Income has advantages and disadvantages
  - Clear policy benchmark, easy to understand
  - But not coordinated with federal programs
  - Does not consider assets

# State Need Grant: Findings and Observations

- Biggest gaps between costs and resources, in order of likely impact on 70% goal:
  - Lowest-income (<50% of state median income) eligible students who do not receive State Need Grant (primarily at community colleges)
  - Lower-income students (50-70% of state median income) at four-year comprehensive and research universities who are eligible but do not receive reduced State Need Grants
  - Lower- and middle-income students at research universities, even with State Need Grant fully funded
  - Lowest to middle-income students at private institutions, with or without State need Grant

# State Need Grant: Findings and Observations

- Institutional contribution is substantial, but unevenly distributed
  - Critical source of support at private and research universities
  - Very little at community colleges or comprehensives
  - Institutions' goals / priorities may differ from the state's
- Combination of need grant and subsidized community college tuition make certificate and associate-level education affordable for most students — ***if eligible students actually receive awards***

# State Need Grant Option 1: Serve More Students

- 1a) Increase funding to level set by policy (example: California)
- 1b) Use existing budget to cover all students at 50% or less MFI
  - Provide more transparency for lowest-income students
  - Plan for growth in participation/eligibility
- 1c) Use shared responsibility model to coordinate benefits (example: Minnesota)

# State Need Grant Option 2: Partially Centralize Award Responsibility

- Assign responsibility for communicating statewide message/commitment
- Establish award levels and eligibility parameters that can be fully funded
- Use very conservative estimates of demand; use 75-85% of appropriation for basic statewide allocation
- Reserve remaining 15-25% for institutions to allocate or for supplemental allocation (also serves as reserve)



# State Need Grant Option 3: Change Use of Median Family Income

- Use clear income benchmarks to set minimum eligibility
  - Translate median family income into approximate round dollar amounts (e.g. \$60,000 for a family of four)
  - Continue to use family size
- Establish a meaningful but limited minimum award (e.g. \$1,000) for all students/families below cutoff
- Use additional income/asset information to guide allocation up to maximum
- Coordinate total award size with Pell/federal tax benefits (next to last dollar aid)

# State Need Grant Option 4: Expand Early Notification / Commitment Opportunities

- Build on College Bound Scholars as early commitment of SNG funds
- Identify other groups likely to qualify if/when they apply and establish firm commitments to them; e.g.
  - Place-bound transfer students
  - Students/families eligible for food stamps, Medicaid
  - Pell-eligible WA residents not enrolled in SNG institutions
- Combine estimates of state and federal benefits in communicating with students

# State Need Grant Option 5: Support and Incentivize Progress

- Prorate awards based on 30 semester (45 quarter) hours per year
- National Association of Financial Aid Administrators (NASFAA) “Pell Bank” model proposal
- Fill in gaps in Pell program (summer, more than 12 hours per term, etc.)
- Adjust maximums in each sector if needed to retain approximate current levels per credit
- Example: Minnesota



# Discussion? Questions?

1156 15th Street NW, Suite 850, Washington, DC 20002  
202.547.2222 (phone) • 202.547.2224 (fax)

[www.HCMSTRATEGISTS.COM](http://www.HCMSTRATEGISTS.COM)

ALIGN. ADVOCATE. ADVANCE.

**WHAT ARE THE TOTAL COSTS THAT NEED TO BE COVERED FOR A DEGREE?**

		Lowest Income (Under \$30,000 for family of 4) or Independent Student	Lower Income= ~\$60,000	Middle Income= ~\$80,000	Upper Middle= ~\$120,000
Research Univs.	Estimated Amount	\$ 127,200	\$ 127,200	\$ 127,200	\$ 127,200
Comprehensive Univs.	Estimated Amount	\$ 97,200	\$ 97,200	\$ 97,200	\$ 97,200
2+2 Degree (WCTCS to Comprehensive)	Estimated Amount	\$ 93,200	\$ 93,200	\$ 93,200	\$ 93,200
Private Nonprofit (WA)	Estimated Amount	\$ 134,800	\$ 134,800	\$ 134,800	\$ 134,800

**HOW MUCH DOES (OR SHOULD) THE STATE CONTRIBUTE TO THOSE COSTS THROUGH PUBLIC SUPPORT OF INSTITUTIONS?**

		Lowest Income (Under \$30,000 for family of 4) or Independent Student	Lower Income= ~\$60,000	Middle Income= ~\$80,000	Upper Middle= ~\$120,000
Research Univs.	Estimated Amount	\$ 21,600	\$ 21,600	\$ 21,600	\$ 21,600
	<b>Remaining</b>	<b>\$ 105,600</b>	<b>\$ 105,600</b>	<b>\$ 105,600</b>	<b>\$ 105,600</b>
Comprehensive Univs.	Estimated Amount	\$ 8,000	\$ 8,000	\$ 8,000	\$ 8,000
	<b>Remaining</b>	<b>\$ 89,200</b>	<b>\$ 89,200</b>	<b>\$ 89,200</b>	<b>\$ 89,200</b>
2+2 Degree (WCTCS to Comprehensive)	Estimated Amount	\$ 13,400	\$ 13,400	\$ 13,400	\$ 13,400
	<b>Remaining</b>	<b>\$ 79,800</b>	<b>\$ 79,800</b>	<b>\$ 79,800</b>	<b>\$ 79,800</b>
Private Nonprofit (WA)	Estimated Amount	\$ -	\$ -	\$ -	\$ -
	<b>Remaining</b>	<b>\$ 134,800</b>	<b>\$ 134,800</b>	<b>\$ 134,800</b>	<b>\$ 134,800</b>

**HOW MUCH ARE PARENTS EXPECTED TO PAY? (EXAMPLES FROM FEDERAL FORMULA)**

		Lowest Income (Under \$30,000 for family of 4) or Independent Student	Lower Income= ~\$60,000	Middle Income= ~\$80,000	Upper Middle= ~\$120,000
Research Univs.	Estimated Amount	\$ -	\$ 18,200	\$ 39,400	\$ 86,300
	<b>Remaining</b>	<b>\$ 105,600</b>	<b>\$ 87,400</b>	<b>\$ 66,200</b>	<b>\$ 19,300</b>
Comprehensive Univs.	Estimated Amount	\$ -	\$ 18,200	\$ 39,400	\$ 86,300
	<b>Remaining</b>	<b>\$ 89,200</b>	<b>\$ 71,000</b>	<b>\$ 49,800</b>	<b>\$ 2,900</b>
2+2 Degree (WCTCS to Comprehensive)	Estimated Amount	\$ -	\$ 18,200	\$ 39,400	\$ 86,300
	<b>Remaining</b>	<b>\$ 79,800</b>	<b>\$ 61,600</b>	<b>\$ 40,400</b>	<b>\$ (6,500)</b>
Private Nonprofit (WA)	Estimated Amount	\$ -	\$ 18,200	\$ 39,400	\$ 86,300
	<b>Remaining</b>	<b>\$ 134,800</b>	<b>\$ 116,600</b>	<b>\$ 95,400</b>	<b>\$ 48,500</b>

**HOW MUCH DOES THE FEDERAL GOVERNMENT PROVIDE THROUGH PELL GRANTS AND AMERICAN OPPORTUNITY TAX CREDITS?**

		Lowest Income (Under \$30,000 for family of 4) or Independent Student	Lower Income (\$60,000)	Middle Income (\$80,000)	Upper Middle (\$120,000)
Research Univs.	Estimated Amount	\$ 26,600	\$ 14,400	\$ 10,000	\$ 10,000
	<b>Remaining</b>	<b>\$ 79,000</b>	<b>\$ 73,000</b>	<b>\$ 56,200</b>	<b>\$ 9,300</b>
Comprehensive Univs.	Estimated Amount	\$ 26,600	\$ 14,400	\$ 10,000	\$ 10,000
	<b>Remaining</b>	<b>\$ 62,600</b>	<b>\$ 56,600</b>	<b>\$ 39,800</b>	<b>\$ (7,100)</b>
2+2 Degree (WCTCS to Comprehensive)	Estimated Amount	\$ 26,600	\$ 14,400	\$ 10,000	\$ 10,000
	<b>Remaining</b>	<b>\$ 53,200</b>	<b>\$ 47,200</b>	<b>\$ 30,400</b>	<b>\$ (16,500)</b>
Private Nonprofit (WA)	Estimated Amount	\$ 26,600	\$ 14,400	\$ 10,000	\$ 10,000
	<b>Remaining</b>	<b>\$ 108,200</b>	<b>\$ 102,200</b>	<b>\$ 85,400</b>	<b>\$ 38,500</b>

**HOW MUCH, IF ANY, SHOULD STUDENTS BE EXPECTED TO WORK WHILE ENROLLED? (STATE POLICY CHOICE/LEVER; EXAMPLE = 15 HOURS/WEEK AT STATE MIN WAGE)**

		Lowest Income (Under \$30,000 for family of 4) or Independent Student	Lower Income (\$60,000)	Middle Income (\$80,000)	Upper Middle (\$120,000)
Research Univs.	Estimated Amount	\$ 18,700	\$ 18,700	\$ 18,700	\$ 18,700
	<b>Remaining</b>	<b>\$ 60,300</b>	<b>\$ 54,300</b>	<b>\$ 37,500</b>	<b>\$ (9,400)</b>
Comprehensive Univs.	Estimated Amount	\$ 18,700	\$ 18,700	\$ 18,700	\$ 18,700
	<b>Remaining</b>	<b>\$ 43,900</b>	<b>\$ 37,900</b>	<b>\$ 21,100</b>	<b>\$ (25,800)</b>
2+2 Degree (WCTCS to Comprehensive)	Estimated Amount	\$ 18,700	\$ 18,700	\$ 18,700	\$ 18,700
	<b>Remaining</b>	<b>\$ 34,500</b>	<b>\$ 28,500</b>	<b>\$ 11,700</b>	<b>\$ (35,200)</b>
Private Nonprofit (WA)	Estimated Amount	\$ 18,700	\$ 18,700	\$ 18,700	\$ 18,700
	<b>Remaining</b>	<b>\$ 89,500</b>	<b>\$ 83,500</b>	<b>\$ 66,700</b>	<b>\$ 19,800</b>

**HOW MUCH, IF ANY, SHOULD STUDENTS BE EXPECTED TO BORROW? (EXAMPLE = \$5,000 PER YEAR FOR FOUR-YEAR, \$2,500 FOR CTCs)**

		Lowest Income (Under \$30,000 for family of 4) or Independent Student	Lower Income (\$60,000)	Middle Income (\$80,000)	Upper Middle (\$120,000)
Research Univs.	Estimated Amount	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000
	<b>Remaining</b>	<b>\$ 40,300</b>	<b>\$ 34,300</b>	<b>\$ 17,500</b>	<b>\$ (29,400)</b>
Comprehensive Univs.	Estimated Amount	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000
	<b>Remaining</b>	<b>\$ 23,900</b>	<b>\$ 17,900</b>	<b>\$ 1,100</b>	<b>\$ (45,800)</b>
2+2 Degree (WCTCS to Comprehensive)	Estimated Amount	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000
	<b>Remaining</b>	<b>\$ 19,500</b>	<b>\$ 13,500</b>	<b>\$ (3,300)</b>	<b>\$ (50,200)</b>
Private Nonprofit (WA)	Estimated Amount	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000
	<b>Remaining</b>	<b>\$ 69,500</b>	<b>\$ 63,500</b>	<b>\$ 46,700</b>	<b>\$ (200)</b>

**HOW MUCH WOULD STATE NEED GRANT PROVIDE IF ALL STUDENTS UP TO 50% OF MFI WERE COVERED?**

		Lowest Income (Under \$30,000 for family of 4) or Independent Student	Lower Income= ~\$60,000	Middle Income= ~\$80,000	Upper Middle= ~\$120,000
Research Univs.	Estimated Amount	\$ 43,500	\$ -	\$ -	\$ -
	<b>Remaining</b>	<b>\$ (3,200)</b>	<b>\$ 34,300</b>	<b>\$ 17,500</b>	<b>\$ (29,400)</b>
Comprehensive Univs.	Estimated Amount	\$ 30,000	\$ -	\$ -	\$ -
	<b>Remaining</b>	<b>\$ (6,100)</b>	<b>\$ 17,900</b>	<b>\$ 1,100</b>	<b>\$ (45,800)</b>
2+2 Degree (WCTCS to Comprehensive)	Estimated Amount	\$ 29,800	\$ -	\$ -	\$ -
	<b>Remaining</b>	<b>\$ (10,300)</b>	<b>\$ 13,500</b>	<b>\$ (3,300)</b>	<b>\$ (50,200)</b>
Private Nonprofit (WA)	Estimated Amount	\$ 34,100	\$ -	\$ -	\$ -
	<b>Remaining</b>	<b>\$ 35,400</b>	<b>\$ 63,500</b>	<b>\$ 46,700</b>	<b>\$ (200)</b>

**HOW MUCH WOULD STATE NEED GRANT PROVIDE IF ALL STUDENTS UP TO 70% OF MFI WERE COVERED?**

		Lowest Income (Under \$30,000 for family of 4) or Independent Student	Lower Income (\$60,000)	Middle Income (\$80,000)	Upper Middle (\$120,000)
Research Univs.	Estimated Amount	\$ 43,500	\$ 21,750	\$ -	\$ -
	<b>Remaining</b>	<b>\$ (3,200)</b>	<b>\$ 12,550</b>	<b>\$ 17,500</b>	<b>\$ (29,400)</b>
Comprehensive Univs.	Estimated Amount	\$ 30,000	\$ 15,000	\$ -	\$ -
	<b>Remaining</b>	<b>\$ (6,100)</b>	<b>\$ 2,900</b>	<b>\$ 1,100</b>	<b>\$ (45,800)</b>
2+2 Degree (WCTCS to Comprehensive)	Estimated Amount	\$ 29,800	\$ 14,900	\$ -	\$ -
	<b>Remaining</b>	<b>\$ (10,300)</b>	<b>\$ (1,400)</b>	<b>\$ (3,300)</b>	<b>\$ (50,200)</b>
Private Nonprofit (WA)	Estimated Amount	\$ 34,100	\$ 17,050	\$ -	\$ -
	<b>Remaining</b>	<b>\$ 35,400</b>	<b>\$ 46,450</b>	<b>\$ 46,700</b>	<b>\$ (200)</b>

# Commission to Study College Affordability and College Completion

## Resolves 2013, Chapter 109

### Chairs:

Senator Rebecca J. Millett  
Representative Matthea Elizabeth Daughtry

### Staff:

Lock Kiermaier

## **Conference Call Notes; 8/20/14**

### **Participants:**

- Senator Rebecca Millett, Chair
- Representative Mattie Daughtry, Chair
- Malia Sieve, Senior Associate, HCM Associates/Strategy Labs
- Monnica Chan, Director of Policy & Research, New England Board of Higher Education
- Nate Johnson, Postsecondary Analytics, HCM Associates/Strategy Labs
- Lock Kiermaier, Commission Staff

The following notes represent annotated versions of comments made by the participants during the 8/20/14 conference call; comments are presented in the order in which they occurred (Source: notes from Malia Sieve and Lock Kiermaier.)

### Representative Mattie Daughtry

- Resolve 2013, Chapter 109 asked the Commission to Study College Affordability and College Completion (CSCACC) to look at 5 topics relevant to college affordability and completion;
- The CSCACC heard from 7 students at their first meeting; talked about their own experiences and obstacles; also heard a presentation from Malia Sieve from Strategy Labs on affordability;
- The CSCACC's 1<sup>st</sup> meeting was to define affordability but it is clear that this topic is complex and wide subject; the CSCACC needs to come to terms with this topic;
- The CSCACC will be reviewing the Maine State Grant program, CCA Game Changers, Pay it Forward, textbooks and fees

### Senator Rebecca Millett

- The CSCACC is trying to push for coming up with a concrete understanding of what we define as affordability and what target populations to focus – non-traditional students was one possibility;
- The CSCACC is working on a template by which we can measure each of these options according to benchmarks to facilitate an understanding of which will have the biggest impact, and ease of implementation;
- Because the CSCACC has relatively little time in which to complete a report (12/9/14 deadline), we want to keep focused on these topics.



Nate Johnson

- The CSCACC is not alone in these efforts and conversations on defining college affordability;
- There are a couple parallel conversations in other states;
- The kinds of questions the CSCACC is talking about are familiar and starting in the right place in common language on affordability;
- He can beta test an affordability framework that he has been working with other states;
- Affordability is the balance of cost of Higher Education with whatever resources are available to pay for it;
- He could provide the CSCACC with a spectrum of affordability ranging from complete unaffordability to complete affordability with other options in the middle – this may allow the CSCACC to align policies around it;
- What are the levels of affordability we want to provide for students in the state?
- Is it helpful to think about this as a spectrum?

Representative Mattie Daughtry

- Yes, it would be helpful to the CSCACC to consider the spectrum of affordability.

Senator Rebecca Millett

- She sees the CSCACC as needing to establish some sort of threshold in order to evaluate if an option would impact it;
- She would not be interested in supporting a policy that would lead us to a completely unaffordable level;
- Has any work been done to create an affordability ratio?

Nate Johnson

- He is not sure if Maine has ever had a benchmark on what the state should pay and what the student should pay;
- Other states have set some of these benchmarks but a lot have been abandoned with budget cutting in recent years;
- Minnesota has a standard that a student should pay 50% of college costs at the 4 year sector and X% at 2 year community colleges (less than 50%) because the pay off for these students is less stable.

Monnica Chan

- Would it be helpful to get into cost of attendance definition?

Nate Johnson

- He believes that it is important to first get a handle on what the actual costs are by starting with the cost to students;

- Backing up from that first step, it's important to know how public support (appropriations) relates to tuition;
- After that, you have out of pocket costs for tuition and fees, then books and supplies, and when trying to estimate gaps – don't focus on living expenses, but more on opportunity costs – living expenses are needed not matter what and not a separate cost of education;
- Living expenses are effected by opportunity costs .

Lock Kiermaier

- When you were talking about the spectrum of affordability – does that assume establishing a different solution for each threshold? Are there a series of solutions based on the different thresholds?

Nate Johnson

- It is important for each state to set targets for affordability priorities.

Lock Kiermaier

- Are there examples of other states taking this approach?

Nate Johnson

- There are states that have done that, but they are not using the previously described spectrum;
- California has its way of doing that – still has big gaps, but they're closer to having a vocabulary to debate their priorities

Senator Rebecca Millett

- When she considers this spectrum of affordability, she would take out the 2 extreme ends of the spectrum, that of complete affordability and complete unaffordability, which leaves us in the middle;
- The conversation gets more nuanced – the CSCACC would need to say, as an example, that we think at this point in time, going with minimum affordability is a way to accomplish higher enrollment, but based on the info we've received, there are a lot of barriers;
- How do we as a commission come to agreement - maybe we can use this as a discussion topic in future meetings.

Nate Johnson

- That's that next step – if you figure out what some of the benchmarks, then you need to define what minimal affordability means. What's the maximum amount of debt a student

can incur and still be minimally affordable? Is it 10K or 20K? It's an empirical and political/policy decision. What seems reasonable to the Commission? Is it based on the degree program or is it more?

- He can share some more research on what the empirical evidence is on those issues, but a lot will be a political calculation.

#### Senator Rebecca Millett

- She would like empirical data to reduce the politics of the conversation; and wants to know if there are recent empirical studies on the affordability topic.

#### Representative Mattie Daughtry

- On the evidence side, she is curious if there's been any calculation of the threshold of debt and its impact on future borrowing; how is this might be creating barriers to future student borrowing;
- Upon a discussion of cost of law degrees; she indicates the need to make this part of the CSCACC's review

#### Nate Johnson

- To the extent that there is empirical evidence, it suggests that it is important to acknowledge the fact that books and tuition are not the only costs;
- If you have a policy that only includes tuition and books, your tuition policy is not going to be enough and will be incomplete;
- While he can share empirical evidence, it might not apply to Maine; the CSCACC may want to look at what the state costs for higher education is and say that students can contribute something to this whether through work or loans and then think through what those contribution numbers might be;
- One financial aid director in another state said that the number for student debt should be closer to a new car than to a new house because it's the cost that people take on and can pay back in a reasonable amount of time; a total loan amount in the low 5 figures may be reasonable.

#### Representative Mattie Daughtry

- Is 10 or 15 years a reasonable amount of time to repay a college loan?

#### Nate Johnson

- He thinks that federal loans have a 15 year loan payback schedule.

#### Representative Mattie Daughtry

- She has heard that colleges have been trying to package loan repayments schedules for 10 years so as to make it easier on the students after graduation.

Nate Johnson

- Another state legislature has been talking about considering a reasonable debt schedule that allowed students to live a middle class lifestyle within a few years after graduation;
- An agreed upon uniform debt schedule for college loans will depend on what seems reasonable to the CSCACC and the people of Maine.

Senator Rebecca Millett

- She is uncomfortable to use references to the “middle class” because it’s a subjective term and is open to lots of debate and discussion that’s not relevant to the conversation;
- She is looking forward to the CSCACC’s final report and the upcoming session as an opportunity to getting something accomplished;
- She favors basing the report on empirical data:
- She hopes to develop an analysis on inputs, costs, revenue, salaries and come up with some data points on what is affordable in Maine; can data on actual student loans and average . Maine salaries be used to make the analysis more concrete?

Nate Johnson

- If one knows what the salary differences are for each degree, one could look at the added value to a credential and use that as a basis for discussion on what’s affordable. Monnica Chan may have data this already available.

Monnica Chan

- She does not have the specific data for Maine off-hand, but has figures for New England that can be used as a benchmark.

Representative Mattie Daughtery

- The New England data would be a huge help.

Malia Sieve

- Can FAME be asked for any relevant analyses that they might have?

Monnica Chan

- The CSCACC may also want to look at default rates by each institution to assess if debt load is manageable.

Nate Johnson

- There are a lot of students who are making their payments and scraping by uncomfortably, but it's an index number.
- The default rate is higher at community colleges.

Representative Mattie Daughtry

- She suggested that the CSCACC should check in with Representative Seth Berry on the "Know Before You Go" legislation to get information on the data the Select Committee on Workforce Development is collecting.

Nate Johnson

- He knows that the CSCACC is working with CCA Game Changers, but the other thing that is often not considered is the time necessary to complete a college degree and the impact that each additional year students are in college before they graduate has on post-graduation earnings and ability to pay on college debt;
- The CSCACC may want to think about cost not only as tuition and non-tuition costs, but what's the total investment over the length of time it takes to complete the college credential.

Senator Rebecca Millett

- We need to look at actual cost of education programs (not just tuition cost) and we need to talk about what funds the Legislature appropriates for higher education; in addition, there are those that will argue that the costs of higher education need to be looked at;
- If one is looking at the earning potential with a particular degree, and then the discussion moves back to the question of what is affordable?

Nate Johnson

- What he likes about Senator Millett's suggestion is that it put everything on the table that's part of the equation, and even if there are differences in who's responsible, it shows what the components are and the costs at a 4 year degree (15-20K per student) plus the cost to students. Appropriated funds from the Legislature reduces the total, but then what can the institutions of higher education can do to reduce the costs?

Senator Rebecca Millett

- She is in favor of the model being discussed; one which is based on high level data;
- What still needs to be asked is the following question: based on salaries, what is a reasonable level of student debt?; The answer should be based on empirical data on debt and a decision on what constitutes reasonable expectations.

Representative Mattie Daughtry

- She agrees with Senator Millett's proposed model and believes that it is tangible.

Nate Johnson

- The proposed model also helps one figure out and describe what is not known; if the total cost for higher education spending or student borrowing it is not known, one can use a placeholder in to figure it out the missing variable.

Lock Kiermaier

- Is there an existing document that concisely lays this model out that could be sent to the CSCACC?

Nate Johnson

- Yes, he can send the CSCACC a document regarding the work he has been doing with the state of Washington and will send the CSCACC a presentation that has been developed for that state.

Malia Sieve

- What are the things that the CSCACC needs to support your next steps?

Representative Mattie Daughtry

- She would like to obtain data on student loan default rates.

Monnica Chan

- The New England Board of Higher Education has calculated default rates for New Hampshire; the data is from 2010 and will be sent to the CSCACC.

Nate Johnson

- Higher education loan default rates are public information and on the USDOE website.

Monnica Chan

- The USDOE data is aggregated by state.

Lock Kiermaier

- The CSCACC's next meeting on Tuesday, August 26<sup>th</sup>, will include a panel discussion involving FAME about the Maine State Grant program.

Representative Mattie Daughtry

- How does the Maine State Grant Program compare to grant programs in other states?

Nate Johnson

- NASGAP has an annual report that has information on state financial aid programs.

Monnica Chan

- She has used the NASGAP data in various ways but primarily has looked at changes in the average grant award over time.

Nate Johnson

- He urges caution when looking at NASGAP data – some states have low tuition community colleges because of generous state appropriations. In some ways, these states are providing need based aid. The complete data only makes sense when it is compared with tuition rates on a state-by state basis.



# **Can Financial Aid Improve Student Success at Louisiana's Community Colleges?**

## **A Study of the Potential Impact of Redistributing State Gift Aid on the Success of Pell Grant Recipients**

Kevin Crockett, President/CEO and Principal, Noel-Levitz

Mark Heffron, Senior Executive, Noel-Levitz

Mark Schneider, Vice President, American Institutes for Research

**Noel-Levitz®**

 **AIR®**  
AMERICAN INSTITUTES FOR RESEARCH®



# Introduction

**This study investigates the relationship between levels of financial aid and student success in Louisiana community colleges.**



Community colleges, which now enroll over one-third of the nation's postsecondary students,<sup>1</sup> have become increasingly important to the training of the nation's workforce and as a gateway to bachelor's degree programs. The Obama Administration has emphasized community colleges as key to achieving its goal of the United States having the highest proportion of college graduates in the world by 2020. However, student success rates in these colleges are low. According to the American College Testing Program, for first-time, full-time students, the first-to-second year retention rate at two-year public institutions is 55 percent and the three-year graduation rate is only 27 percent.<sup>2</sup> At the same time, state and federal governments are contending with fiscal constraints, and many states are cutting back on their support to higher education.

As these trends collide, a policy question has come to the fore: Does financial aid affect student retention and completion in the two-year sector? This leads to a related question: Can financial aid be deployed more efficiently to increase student success rates without significantly increasing the aggregate cost of the aid programs?

## Student Success and Financial Aid in Louisiana Community Colleges

In this report, we investigate the relationship between levels of financial aid and student success in Louisiana community colleges, with a focus on Pell Grant recipients. We measure success by whether a student earned a certificate or an associate's degree within three years of enrolling as a first-time full-time student or transferred to a four-year Louisiana university within the same timeframe.<sup>3</sup>

We recognize that community colleges serve many other students besides the full-time, degree- or certificate-seeking students we study here, but these full-time students are a core clientele of community colleges that comprised 71 percent of the first-time community college students enrolled in Fall 2006 and Fall 2007. We have excluded students who entered a community college in fall 2006 or fall 2007 on a part-time basis (taking fewer than 12 credit hours in the term) from this study because they are a markedly different population from the full-time students. As shown in Table A in the Appendix, students who entered on a part-time basis were older, less likely to apply for need-based aid (i.e., file a FAFSA), and less likely to receive a Pell Grant or state-based financial aid. Although students may change from full-time to part-time or vice versa during their tenure, those who began on a part-time basis are only 43 percent as likely to receive a degree or certificate or transfer to a four-year institution within a three-year period as are those who entered as full-time students. We also recognize that the majority of students in Louisiana's community colleges do not have Pell grants, but Pell grant students are of particular importance to any discussion of the effects of financial aid because they receive the bulk of federal student aid funds and a considerable amount of state aid also goes to these students.

This report is a companion to our earlier study of the effects of grants and scholarships on student retention in Louisiana's four-year regional state university campuses. In that study, we concluded that by more effectively targeting its scholarships and grants (what we call "Gift Aid"<sup>4</sup>), Louisiana could increase student retention while saving almost \$400,000 per year.<sup>5</sup> As this community college study is about to show, strategically targeting financial aid to increase the success of community college students appears to be far less likely to succeed.

<sup>1</sup> Digest of Education Statistics: 2010, Table 201.

<sup>2</sup> ACT Institutional Data File, 2011: National Collegiate Retention and Persistence to Degree Rates, slides 4 and 7.

<sup>3</sup> Because we are using a state student unit record system, we cannot track the movement of students from a Louisiana Community College to a college in another state or to a private college/university. Although we suspect the number of students who transfer out of state to be relatively small, this means that our estimated student success rates represent a lower bound on the true success rates.

<sup>4</sup> The term "Gift Aid" used in this study refers to grants and scholarships the student does not have to repay. This aid can come through the federal government (e.g., Pell Grants), through state programs, or through institutions themselves. In contrast to Gift Aid, loans must be repaid and hence are less valuable to the recipient. See also definitions on page 3.

<sup>5</sup> The study is available online at [www.noellellevitz.com/FinancialAidStudies](http://www.noellellevitz.com/FinancialAidStudies).

## Data

In this study, we use student unit record (SUR) data that have been merged with detailed information on student financial aid awards. This integration began in 2005-2006, when Noel-Levitz assisted the Louisiana Board of Regents in adding these financial data to their student unit record system. Data submission and cleaning protocols were developed and a taxonomy was constructed to interpret the myriad of institutional fund codes contained in the institutions' administrative data systems. Louisiana's student unit record system now contains detailed, student-record-level data on the types and amounts of aid that students attending the state's 14 four-year public universities and 11 community colleges received since the 2006-2007 academic year.

In addition to these financial data, the Regents' data system also contains information on students' high school and college performance and retention, transfer, and completion behaviors. Although the Regents had collected these data over the years, they had not systematically used the data to assess the relationship between receipt of financial aid and retention and completion. With the support of the Bill and Melinda Gates Foundation and in partnership with the Regents, we have been exploring this issue. As noted, we previously studied student retention in four-year regional campuses. In this report, we turn our attention to community colleges.

For this study, we extracted community college data for the 2006-2007 through 2009-2010 academic years to address the following questions:

- How are the level and mix of financial assistance related to the rates at which Pell Grant recipients complete their programs, as measured by completing an associate degree or a certificate and/or by transferring to a Louisiana four-year public institution?
- Can we identify flex points in the size of financial aid awards where additional dollars yield diminishing or no returns?
- Can we help Louisiana package aid more effectively by eliminating "overpayment" to some students while shifting that money to students who might otherwise not succeed?

We focus on Pell Grant recipients because they are a population of great interest both nationally and in Louisiana. Moreover, an important aspect of Louisiana financial aid policy was the introduction of the GO Grant for the 2007-2008 academic year, which can increase the level of support Pell Grant students receive. Prior to 2007-2008, most Louisiana state-based financial aid was awarded through the Taylor Opportunity Program for Students (TOPS), a merit-based award. A TOPS award typically covers the cost of tuition at a public college/university. In contrast, the GO grant program provides a need-based component to the state's financial aid plan for Pell Grant recipients who need additional aid to afford the cost of attending college.

### Definitions

**Cost of Attendance (COA)** – Estimated cost, including tuition and fees, books and supplies, room and board, personal costs, and transportation

**Expected Family Contribution (EFC)** – The amount of money the family is expected to contribute to the student's education, as determined by the Federal Methodology need analysis formula

**Student's Financial Need** – The difference between the COA and the EFC is the Student's Financial Need

**Gift Aid** – Financial aid, such as grants and scholarships, which does not need to be repaid

**Percent Need Met With Gift Aid** – Percent of Student's Financial Need that is met with Gift Aid

**Grade Point Average (GPA)** – Average of a student's high school grades, converted to a 4.00 scale (4.00 is an A, 3.00 is a B, and 2.00 is a C)

## Data Exclusions

To accurately conduct this study, we needed to exclude some of the data we were given. Thus, our analysis was based on records from 11,244 students who were first-time, full-time, degree- or certificate-seeking students enrolled at a Louisiana community college during the fall terms of 2006 and 2007.

Starting with 11,839 student records (see Table 1 on the next page), we removed three groups of students with characteristics that might skew our results: students receiving talent-based awards (e.g., student athletes), students receiving aid because they were a dependent of an institutional employee, and students paying non-resident tuition. Students receiving aid on the basis of special talent have a unique affiliation at the institution, typically membership on an athletic team. Students paying non-resident tuition are not eligible for either TOPS or the GO Grant, and they represent a small fraction of the community college population in Louisiana. In addition, data from students enrolled at the Louisiana technical colleges were excluded, since the focus of this study was on the completion of an associate's degree or a certificate and/or transfer to a four-year institution rather than on the completion of a technical award. Finally, a few records were excluded because they contained incomplete or suspect data. The exclusions described above reduced the overall community college data set to 11,244 records or 95 percent of the original file.

In our earlier study, we documented the strong apparent effect of academic preparation, as measured by high school grade point average (GPA) and ACT composite score, on student retention at Louisiana's regional universities. Because community colleges are open admission institutions, over one-quarter of the students in our database did not have a high school GPA recorded and almost half did not have an ACT composite score. Hence, we excluded these metrics, too. Yet, as we are about to show, even in their absence, our data showed a significant correlation between academic preparation and student success by using a third metric: the number of developmental courses taken—a metric that proved to be highly predictive of completion/success.

As noted later in this report, we excluded recipients of the Taylor Opportunity Program for Students (TOPS) because these students are required to have completed a specified core high school curriculum with grade point at or above a specified minimum among other requirements. As a result, students who receive a TOPS scholarship, are, by definition, better prepared academically than most non-TOPS recipients. The success rate for TOPS recipients is 45 percent compared to 19 percent for non-TOPS participants.

## Outcome Metrics Used in This Study

The original data for our study came from the colleges shown in Table 1 below. This table presents key outcome metrics for the colleges in our analysis. Most importantly, we present **our measure of success** in this table, based on student-level data from Louisiana's student unit record system, *combining both transfers and completions*. While many of these rates are still far too low, they are far higher than the **official government graduation rates**,<sup>6</sup> which, as is well-known, do not recognize a key role of community colleges—preparing students for transfer to four-year institutions.

**Table 1: Outcome Metrics Used for This Study: First-Time, Full-Time Degree-Seeking Students**

Name of Institution	IPEDS Graduation Rates		Total Fall 2006 and 2007		
	Three-Year Graduation Rate (150% Time*)	Four-Year Graduation Rate (200% Time*)	Enrollment	Three-Year Graduate/Transfer	Graduate/Transfer Rate
Baton Rouge Community College	3%	7%	2,300	448	19%
Bossier Parish Community College	10%	13%	1,935	505	26%
Delgado Community College	2%	7%	2,928	366	13%
Elaine P. Nunez Community College	21%	28%	202	42	21%
L.E. Fletcher Technical Community College	9%	15%	414	114	28%
Louisiana Delta Community College	10%	10%	362	91	25%
River Parishes Community College	6%	8%	306	63	21%
South Louisiana Community College	7%	9%	731	196	27%
Sowela Technical Community College	35%	42%	715	309	43%
L.S.U. at Eunice	8%	12%	1,350	430	32%
Southern University in Shreveport	14%	16%	596	127	21%
<b>Totals</b>	—	—	<b>11,839</b>	<b>2,691</b>	<b>23%</b>

\* For students completing an associate's degree, 150 percent of normal time is a timeframe that corresponds to completing an associate's degree in three years, whereas 200 percent of normal time is a timeframe that corresponds to completing an associate's degree in four years.

<sup>6</sup> The official government rates are reported in IPEDS, the Integrated Postsecondary Education Data System, run by the U.S. Department of Education. It is the government's main repository of information on the nation's colleges and universities. See <http://nces.ed.gov/ipeds/>

## Demographics of Louisiana's Community College Student Population

Tables 2 and 3 contain a summary of the sample's gender distribution; race/ethnicity; financial characteristics; and receipt of Pell Grants, TOPS Scholarships, and GO Grants. As previously noted, the primary focus of the initial research was on the 40 percent of students who received a Pell Grant (n=4,491).

**Table 2: Gender and Race/Ethnicity of Students Studied (11,244 Students)**

Description	Number of Students	Percent
Females	6,269	56%
Males	4,975	44%
Asian American	304	3%
Native American	138	1%
African American	3,752	33%
Hispanic American	317	3%
White American	6,282	56%
Unknown	451	4%

Some totals may not equal 100 percent due to rounding.

TM

**Table 3: Financial Characteristics of Students Studied (11,244 Students)**

Description	Number of Students	Percent of Records
Filed a FAFSA*, demonstrated financial need, received a Pell Grant	4,491	40%
Filed a FAFSA, demonstrated financial need, did not receive a Pell Grant**	886	8%
Filed a FAFSA, did not demonstrate financial need	1,044	9%
Did not file a FAFSA	4,823	43%
TOPS recipients	1,590	12%
GO Grant recipients	676	5%
Dependent students	4,778	74%

\* The FAFSA is the Free Application for Federal Student Aid, which students must submit to potentially qualify for Pell Grants and other forms of federal financial aid.

\*\* Pell Grants are awarded to students with Expected Family Contributions (EFC) below a prescribed level, so it is possible for a student to demonstrate financial need without qualifying for a Pell Grant.

Some totals may not equal 100 percent due to rounding.

TM

# Findings

## **1. As the number of developmental courses in which a student enrolls increases, student success decreases.**

For Louisiana's community college students, academic preparation, as reflected in the number of developmental education courses taken, was the strongest predictor of student success, exceeding the predictive strength of any financial aid metric. Students who needed even one developmental education course were much less likely to succeed than students who required none. In addition, as the number of developmental courses increased, the likelihood that a student completed his/her degree or transferred to a four-year school fell precipitously.

As Table 4 shows on the next page, 28 percent of all students who did not enroll in any developmental courses succeeded in earning their degree or transferring. This was over twice the success rate of students who required one developmental course and more than three times the success rate of students who needed three or more developmental courses.

Note: For our analysis, we excluded recipients of the Taylor Opportunity Program for Students (TOPS) because such students are required to have completed a specified core high school curriculum with grade point at or above a specified minimum and an ACT composite score that varies from 20 to 28 depending upon the level of the award. As a result, students who receive a TOPS scholarship are, by definition, better prepared academically than most non-TOPS recipients. Further, they have received a scholarship usually equal at least to their tuition costs based on academics and not financial need.

We realize that excluding the TOPS students, which is necessary for our analyses, results in our reporting student success rates that are lower than they would have been had those students been included.

## 2. Pell Grants do not overcome differences in success rates across income levels among students with equivalent academic preparation.

Overall, we found that students with Pell grants succeeded at slightly lower rates than other students. As we see in Table 4, Pell students had a success rate of 17 percent, two points lower than the average for all students and three points lower than students with financial need who did not receive a Pell Grant. These differences were most pronounced among students with no developmental education needs. Few differences in success rates were observed among students that took developmental education courses which reinforces the pattern that we previously noted: even one developmental education course cut student success rates by half, regardless of Pell status.

We should note that compared to needy students who did not receive Pell Grants, Pell Grant recipients came from families with lower incomes and greater demonstrated financial need levels. In short, Pell Grant recipients have fewer outside resources upon which to draw when trying to make up financing deficiencies. While this might suggest that increasing financial aid would improve the performance of Pell students, as we will see on the next page, the data present a more complicated picture.

**Table 4: Community College Student Success by Total Number of Developmental Courses Taken—Excluding TOPS Recipients (9,654 Students)**

First-time, full-time cohorts that originally enrolled at a Louisiana community college in fall 2006 or fall 2007

Number of Developmental Courses	Three-Year Rate of Graduation and/or Transfer, Excluding TOPS Recipients					
	All Students		Pell Grant Recipients		Demonstrated Financial Need, Not Pell-Eligible	
	Number	3-Year Graduate/Transfer Rate	Number	3-Year Graduate/Transfer Rate	Number	3-Year Graduate/Transfer Rate
None	4,333	28%	1,617	25%	296	30%
1	1,481	13%	576	13%	98	12%
2	1,236	13%	515	12%	88	14%
3 or more	2,604	9%	1,326	9%	167	9%
<b>Total</b>	<b>9,654</b>	<b>19%</b>	<b>4,034</b>	<b>17%</b>	<b>649</b>	<b>20%</b>
<b>Average HSGPA*</b>	2.49		2.48		2.51	
<b>Average need</b>	—		\$11,124		\$6,628	
<b>Average % of need met with gift aid</b>	—		42%		9%	
<b>Average unmet need</b>	—		\$6,171		\$5,166	
<b>Average parents' income*</b>	—		\$20,983		\$50,355	

\* Average HSGPA and average parents' income are for the students whose records included these data points.

TM

### 3. The level of community college students' Need Met With Gift Aid is weakly associated with completion.

To measure the impact of Gift Aid, we calculated each student's Financial Need (Cost of Attendance minus Expected Family Contribution [EFC]), then created a "Need Met With Gift Aid" variable to measure the percentage of that need that was met with Gift Aid from all sources (Percent Need Met With Gift Aid). We believe this percentage measure is a more useful variable than Total Gift Aid, because it accounts for differences between the cost of attendance and the student's EFC.

One goal of this study was to identify "flex points": levels of financial aid that maximize the return to the state's investment while avoiding diminishing returns once aid exceeds that level. However, Table 5 shows little progression in student success until the Percent of Need Met With Gift Aid is 70 percent or greater, a very high level that was only evident among 4 percent of these students.

Looking closer at Table 5, at lower levels of aid we see that success rates increase less than 2 percent as we move up from one category of Need Met With Gift Aid to the next. As we will see later (See Chart 1), even after we controlled for academic preparation as measured by the number of developmental education courses a student took, the Percent of Need Met With Gift Aid appeared to have little bearing on success rates. In short, we see some improvements in student success if aid exceeds 70 percent of Need Met With Gift Aid but those improvements are observed among a very small sample of students and the improvements largely occur among students with no developmental education courses.

**Table 5: Community College Student Success by Percentage of Need Met With Gift Aid—  
Pell Grant Recipients Excluding TOPS Recipients (4,034 Students)**

First-time, full-time cohorts that originally enrolled at a Louisiana community college  
in fall 2006 or fall 2007

	Three-Year Rate of Graduation/Transfer for Pell Recipients, Excluding TOPS Recipients			
Percent of Need Met With Gift Aid	Number of Students Who Graduated/ Transferred in Three Years	Number of Students Who Did Not Graduate/ Transfer in Three Years	Total	Three-Year Graduation/ Transfer Rate
< 30%	213	1,210	1,423	15.0%
30% to < 40%	213	1,021	1,234	17.3%
40% to < 50%	118	619	737	16.0%
50% to < 60%	55	268	323	17.0%
60% to < 70%	26	112	138	18.8%
70% to < 80%	14	28	42	33.3%
80% or more	30	107	137	21.9%
Totals	669	3,365	4,034	16.6%

TM

CHI SQUARE RESULTS: Value = 15.1; df = 6; p-value = 0.02

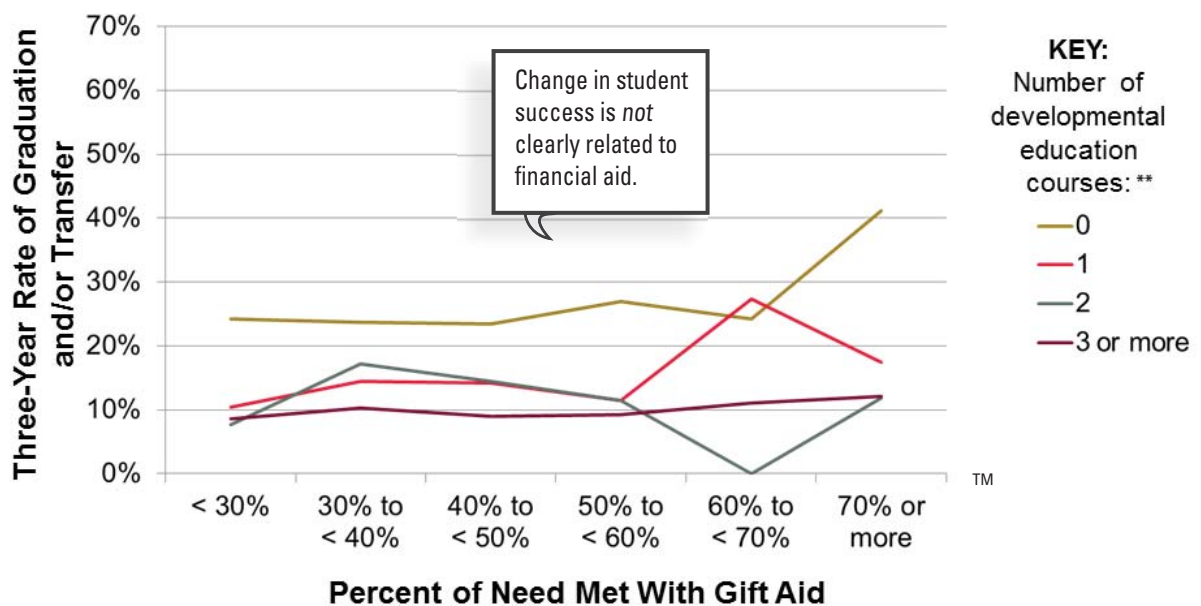
Multi-variable logistic regression was performed to identify what set of characteristics best predict graduation/transfer. The results indicated that the number of developmental courses that a student took was, by far, the strongest predictor. All other characteristics proved to have marginal or no predictive value.



#### 4. Higher levels of Need Met With Gift Aid are not associated with greater student success for students who took more than one developmental course.

Chart 1 below displays the differences in completion rates for students with varying percentage levels of Need Met With Gift Aid in four developmental course groupings. For students with one or more developmental courses, there is either no increase in the student success rates as Gift Aid increases or the results are inconsistent. Although there is an increase in the completion rate of students who took zero developmental courses at higher Gift Aid levels, the gain is modest and would require a substantial investment of additional Gift Aid to achieve relatively modest improvements in success rates.

**Chart 1: Community College Student Success by Percent of Need Met With Gift Aid\***  
Pell Grant recipients, excluding TOPS recipients (4,034 students)



\* T-test for difference in average percent of Need Met With Gift Aid for students who did and did not graduate/transfer within 3 years:

No Developmental Courses:  $t=2.84$ ,  $p\text{-val}=.005$

1 Developmental Course:  $t=.63$ ,  $p\text{-val}=0.53$

2 Developmental Courses:  $t=-.28$ ,  $p\text{-val}=0.78$

3 or more Developmental Courses:  $t=.65$ ,  $p\text{-val}=0.51$

\*\* Multi-variable logistic regression was performed to identify what set of characteristics best predict graduation/transfer. The results indicated that the number of developmental courses that a student took was, by far, the strongest predictor. All other characteristics proved to have marginal or no predictive value.

## Implications and Conclusions: The Effects of Redirecting Aid

As we have shown in this study, financial aid appears to not be an efficient tool to counteract the adverse effects of inadequate academic preparation for students enrolled at Louisiana's community colleges. Given the lack of a strong association of increased aid with student success for students who take one or more developmental courses, directing more aid to these students is not likely to dramatically increase their success. The potential benefits of doing so would be minor and the cost high. Directing more assistance to students taking no developmental courses might have a greater impact but would still be costly.

As we step back and review these findings, we know that many view community colleges as a linchpin to developing the workforce the nation needs. This idea is central to the Obama Administration's higher education policy as evident in his 2012 State of the Union address and his follow-up speech at Northern Virginia Community College. Not surprisingly, given the low costs that community colleges offer relative to bachelor's-degree-granting institutions, as well as their open admission policies and their relative geographic dispersal throughout their states, these colleges have become the door to postsecondary education for over 7 million students. However, students at community colleges often have low success rates, making it difficult to meet the new expectations being set by policy makers.

Students in our study entered their community college seeking a degree or certificate, but too few succeeded. Among first-time, full-time, degree/certificate-seeking students—the students most likely to succeed—official three-year graduation rates average below 12 percent and four-year graduation rates are about 15 percent. In our data, including transfer as a measure of student success, rates after three years are only 23 percent. If students enter community college needing developmental education, their chances of success are even lower.

Every student who does not succeed has invested time and money in pursuing his or her degree. In addition, the taxpayers of the nation and, even more so, the State of Louisiana, have invested substantially in these degree-seeking students who never earn their degree. This study sought to investigate the relationship between financial aid and student success—with a related goal of identifying potential strategies that could increase these low success rates, such as redirecting some student aid to students with weak financial aid packages. However, we found that the success rate of community college Pell Grant recipients did *not* increase substantially as their Percent of Need Met With Gift Aid increased.

While we were confident that for Louisiana's regional university campuses there was a more efficient way to allocate scarce financial aid dollars, we do not believe such a path forward is as evident for community colleges.

The nation is awakening to the need to make more students college-ready *before* they show up on campus. Unfortunately, there are few evidence-based tools that can be deployed to improve the success of students with developmental education needs. We believe that Louisiana should vigorously explore potential avenues to address student educational deficiencies. This is a more promising direction than increasing financial aid to students whose chances of success are 1 in 5.

## Appendix

**Table A: Comparison of Full-time and Part-time First-time Louisiana Community College Students Enrolled Fall 2006 and Fall 2007**

Description	Full-time Students	Part-time Students
Number of enrolled students*	11,244	4,538
Average age	20	26
Average Fall term hours	13	6
% filing a FAFSA	57%	31%
% dependent students**	44%	16%
% independent students**	13%	15%
% with demonstrated financial need**	48%	28%
% with Pell Grant**	40%	23%
% with TOPS	14.1%	0.4%
% with degree/certificate within 3 years	22.4%	9.7%

\* Excludes students receiving talent-based awards, employee dependents, and those paying Louisiana non-resident tuition.

\*\* Percentage of the total enrollment, not just those filing a FAFSA.

## About the Sponsors

### Noel-Levitz

Noel-Levitz has consulted with more than 2,700 public and private colleges and universities across North America, helping these campuses and systems reach and exceed their goals for student recruitment, financial aid, student retention and completion, and strategic enrollment management. In addition, Noel-Levitz convenes events attended by more than 5,000 educators each year and produces reports, papers, and columns to help campus leaders analyze current enrollment trends and discover more effective strategies.

### American Institutes for Research

The American Institutes for Research (AIR), founded in 1946, is a not-for-profit corporation engaged in independent research, development, evaluation, and analysis in the behavioral and social sciences. In serving a range of government and private clients, AIR strives to bring the best science to bear on programs and policy that improve people's lives, with a special emphasis on the disadvantaged.

### The Louisiana Board of Regents

The Louisiana Constitution authorizes the Board of Regents to plan, coordinate, and have budgetary responsibility for Louisiana's public higher education community, including public colleges, universities, and/or professional schools that enroll approximately 225,000 students. The agency also serves as the state liaison to Louisiana's accredited, independent institutions of higher learning. The Board of Regents is a policy-making and coordinating board only, with the responsibility for day-to-day operations of the various college campuses reserved for the state's four higher education management boards.

## Questions about this paper

If you have any questions or comments about this study, please contact Noel-Levitz at 1-800-876-1117 or e-mail [ContactUs@noellelevitz.com](mailto:ContactUs@noellelevitz.com).

*Except where cited otherwise, all material in this paper is copyright © by Noel-Levitz, Inc. Permission is required to redistribute information from Noel-Levitz, Inc., either in print or electronically. Please contact us at [ContactUs@noellelevitz.com](mailto:ContactUs@noellelevitz.com) about reusing material from this report.*

# College Affordability: What Is It and How Can We Measure It?

---

College affordability applies to students, not to parents.  
Parents can subsidize students to make college more affordable for them.  
But the focus should be on the students themselves.

**Sandy Baum**

Research Professor of Education Policy  
George Washington University  
Senior Fellow  
The Urban Institute

and

**Jennifer Ma**

Policy Research Scientist  
The College Board

April 2014

This paper is one in a series of reports funded by Lumina Foundation. The series is designed to generate innovative ideas for improving the ways in which postsecondary education is paid for in this country—by students, states, institutions and the federal government—in order to make higher education more affordable and more equitable. The views expressed in this paper—and all papers in this series—are those of its authors and do not necessarily reflect the views of Lumina Foundation, George Washington University, the Urban Institute, or the College Board.

# Table of Contents

<b>Executive Summary .....</b>	<b>1</b>
<b>Section 1      What Does It Mean for College to be “Affordable?” .....</b>	<b>4</b>
Unmet Need .....	4
Expensive vs. Unaffordable .....	5
Uncertain Outcomes .....	6
<b>Section 2      Affordable for Whom? .....</b>	<b>6</b>
Focusing on the Student, Not the Parents.....	6
<b>Section 3      Judging the Price of College.....</b>	<b>7</b>
Trends in Published Prices and Net Prices .....	7
A Context for College Prices.....	10
Choosing Benchmarks.....	12
Actual vs. Perceived Affordability.....	12
Variation in Prices.....	13
Opportunity Costs .....	14
<b>Section 4      How Much Can Families Afford to Subsidize Their Children? .....</b>	<b>15</b>
Income over Time .....	17
Savings .....	17
<b>Section 5      How Much Can Students Afford to Contribute Out of Income? .....</b>	<b>18</b>
Payments for College Out of the Earnings Premium.....	21
<b>Section 6      Developing Metrics.....</b>	<b>23</b>
<b>Section 7      Summary .....</b>	<b>24</b>
<b>Endnotes .....</b>	<b>25</b>
<b>Appendix      Additional Examples of Potential Indicators .....</b>	<b>27</b>

## Figures and Tables

<b>Figure 1</b>	Published and Net Tuition and Fees (TF) in 2013 Dollars, by Sector, 1993-94 to 2013-14 .....	8
<b>Figure 2</b>	Published and Net Tuition, Fees, Room and Board (TFRB) in 2013 Dollars, by Sector, 1993-94 to 2013-14.....	9
<b>Figure 3</b>	Median Family Income in 2012 Dollars for All Families and Families of Four People in the United States, 1982 to 2012 .....	18
<b>Figure 4</b>	Mean Family Income in 2012 Dollars by Quintile, 1982 to 2012 .....	19
<b>Figure 5</b>	Personal Saving Rate in the United States, 1952 to 2012 .....	20
<b>Table 1</b>	Average Estimated Full-Time Undergraduate Budgets, 2013-14 (Enrollment-Weighted) .....	10
<b>Table 2</b>	Amount of Other Goods and Services That Could Be Purchased for Average Published Tuition and Fee Price Relative to 1993 .....	11
<b>Table 3</b>	Net Tuition and Fees and Net Cost of Attendance in 2011 Dollars at Public Research Universities, by Family Income Quartile of Full-Time Dependent Students, 1999-2000 to 2011-12 .....	13
<b>Table 4</b>	Net Tuition and Fees in 2011 Dollars for Third Income Quartile of Dependent Undergraduates, 1999-2000 to 2011-12.....	14
<b>Table 5</b>	2013 Federal Poverty Guidelines.....	15
<b>Table 6</b>	Median Family Income and Poverty Guidelines in Current Dollars for Families with Four People, 1982 to 2012, Selected Years .....	16
<b>Table 7</b>	Total Family Income, Discretionary Income, and Potential Contribution from Discretionary Income for Families with Four People, 2013 .....	17
<b>Table 8</b>	Median Net Worth of Households by Income Percentile, 1989 to 2012.....	21
<b>Table 9</b>	Monthly Loan Payment Amount by Repayment Period, Interest Rate, and Loan Amount.....	22
<b>Table A1</b>	Average Published Tuition and Fees and Room and Board in 2013 Dollars, by Sector, 1983-84 to 2013-14 .....	28
<b>Table A2</b>	Average Published and Net Tuition and Fees (TF) in 2013 Dollars, by Sector, 1993-94 to 2013-14 .....	29
<b>Table A3</b>	Average Published and Net Tuition and Fees (TF) and Cost of Attendance (COA) in 2011 Dollars, by Sector and Family Income Quartile of Full-Time Dependent Students, 1999-2000 to 2011-12 .....	30
<b>Table A4</b>	Average Published In-State Tuition and Fees in 2013 Dollars at Public Four-Year Institutions, by State, 2008-09 and 2013-14.....	31
<b>Table A5</b>	Median Earnings of Full-Time Workers Ages 25 to 34 by Gender and Educational Attainment, 1971 to 2011, Selected Years .....	33
<b>Table A6</b>	Average Total Debt Levels in 2012 Dollars, Bachelor's Degree Recipients at Public and Private Nonprofit Four-Year Colleges and Universities, 1999-2000 to 2011-12 .....	34



## Executive Summary

**D**iscussions of improving college affordability are rarely grounded in a concrete definition of what it really means. This paper moves toward a more meaningful understanding of the financial accessibility of postsecondary education for students in different circumstances. We argue that the central question should be whether students, regardless of their ages when they enroll in college, can reasonably expect to improve their long-term standards of living, even after paying for college. Paying for college involves combining students' own resources both before and after college, resources their parents can provide, and financial aid from all sources. College affordability applies to students, not to parents. *Parents can subsidize students to make college more affordable for them. But the focus should be on the students themselves.*

First steps in defining and measuring college affordability involve defining both the expenses and the resources that should be included. Should living expenses be considered part of the cost? How should we measure and treat forgone wages? Should the focus be on the least expensive postsecondary options, the most expensive, or something in between? Rather than settling on one answer to this question, it is constructive to measure and monitor all of these indicators to get a complete view of college affordability. The same is true of the resource side of the equation. Parents' ability to contribute to their children's education is a critical issue, but only part of the question of how much students can afford. Whether students are dependent or independent, they may have resources of their own before and during college and

most significant, they expect a financial return over the long run. College affordability is not just dependent on pre-college resources, but also on the magnitude of the expected return to the investment.

In this paper, we address the uncertainty in the return to postsecondary education and its impact on perceptions of college affordability, raise questions about the current concept of "unmet need," and examine the difference between published tuition and fee prices and the net prices students actually pay after taking grants and other gift aid into consideration. We ask how the price of college relative to the prices of other goods and services affects both ability to pay and the perception of ability to pay.

Measuring affordability requires a thoughtful approach to estimating how much students can afford to pay out of their future incomes, combined with improved measures of how much we can expect parents in different circumstances to subsidize their children. It is not sufficient to consider just current income and asset levels, as income over time and changing inequality in the distribution of income and wealth are relevant as well.

We propose defining and tracking an integrated set of metrics over time to monitor changes in college affordability. A clear view of the distribution of prices, earnings, other resources, and student debt will not yield one measure of college affordability, but monitoring changes over time in these indicators and the variety of circumstances facing students would provide a much better understanding of the financial accessibility of the wide variety of postsecondary options available.



# College Affordability: What Is It and How Can We Measure It?

College affordability applies to students, not to parents. Parents can subsidize students to make college more affordable for them. But the focus should be on the students themselves.

Widespread concern about whether college is “affordable” is leading to a search for policy solutions. The President, members of Congress, and other public officials promise to take actions to assure that college is affordable. But little effort has been made to develop a concrete definition of what this really means. The discussion usually focuses on the price of college and other associated expenses, and on the growth in prices relative to family incomes. Instead, we should focus on whether students, regardless of their ages when they enroll in college, can reasonably expect to improve their long-term standards of living, even after paying for college. Paying for college involves combining their own resources both before and after college, resources their parents can provide, and financial aid from all sources.

One problem with simple indicators of affordability is the variety of postsecondary options available. The word “college” applies to thousands of postsecondary institutions in the United States. Like the missions, programs, and opportunities offered by these institutions, the prices vary dramatically. About 150 community colleges charge full-time in-district students less than \$2,000 a year in tuition and fees in 2013-14. At the other end of the spectrum, a similar number of private nonprofit four-year colleges and universities charge tuition and fees exceeding \$40,000.<sup>1</sup>

Furthermore, these published prices are not the prices most students pay. Many institutions discount their prices for some, most, or even all of their students. Federal and state governments, as well as numerous private organizations, also provide grants and scholarships that reduce the prices students pay.

Another complexity is defining exactly what should be included in the “price” that should be affordable. A reasonable perspective is that tuition and required fees constitute the relevant price. The core issue is providing access to education and training—the services purchased with tuition and fees. But what about the books and supplies required for effective studying? What about room and board at residential colleges, or even housing and food costs for students not living on campus? People must eat and have shelter whether they are students or not, so these are not actually costs of going to college. But if students have to set up separate households in order to be in geographical proximity to their institutions, it is reasonable to argue that covering these expenses is part of what should be addressed in discussions of college affordability. And there is evidence that living on campus has a positive impact on academic success.<sup>2</sup>

Of fundamental importance, it is impossible to define affordability only in terms of prices and required expenditures. The resources available to pay the prices determine how much people can afford. Given the large and growing inequality of incomes in the United States—

and the even greater inequality of wealth—expenditures that would require years of earnings for some people could be easily covered out of pocket by others.

Defining which resources are relevant for determining affordability is at least as difficult as defining prices. Discussions of affordability for recent high school graduates usually focus on parental income and assets. A few years after high school graduation, we stop thinking about parental resources and consider only how much money students themselves have.

But college is more than just a consumption good; it is an investment that pays off over time. Therefore, it is not logical to consider only the resources already available before a student begins college. No one thinks a house is affordable only if the buyer can pay cash. No one thinks starting a small business is affordable only if the entrepreneur already has the money to cover all of the start-up costs. In both cases, we assume that borrowing will be part of the picture and try to predict how much people will be able to pay over time.

All of these issues may seem obvious. But none are adequately considered in assertions that college is unaffordable. It is not enough to determine that college is expensive, or even that it is becoming more expensive. We must develop definitions of affordability that clarify who is in a position to pay for which types of postsecondary education and how that is changing over time.

The complexity of the concept makes it clear that there cannot be one metric that will define affordability or make it possible to monitor affordability over time. Rather, we should focus on measuring how much different people need to pay for different educational opportunities and what options they have for making these payments. It is reasonable to say that if a particular option requires an increasing proportion of a student's (or her family's) resources over time, it is becoming more difficult to afford. It is probably not reasonable to draw a bright line between what is affordable for any individual and what is not, since that is actually quite subjective. We might

be able to define what people in different circumstances would have to give up in order to purchase postsecondary education, but personal preferences and priorities will determine whether or not any individual is willing and able to make the necessary sacrifice.

In this paper, we address these issues in an attempt to develop viable concepts of affordability that can be used to assess the financial accessibility of postsecondary education for students in different circumstances. We examine data to shed light on the feasibility of financing different types of education and how that feasibility has changed over time. We also propose a set of metrics that could be monitored to make discussions of college affordability more constructive.

The remainder of the paper is structured as follows. In Sections 1 and 2, we discuss what it means for college to be “affordable” and the roles of students and parents in financing a college education. Section 3 provides information on the changing price of college. Sections 4 and 5 focus on determining how much parents and students can be expected to contribute. Section 6 describes some of the metrics that could be monitored to describe changes in college affordability over time and Section 7 concludes. The Appendix includes examples of potential metrics to supplement those appearing throughout the text.

## **Section 1: What Does It Mean for College to be “Affordable?”**

### **Unmet Need**

One metric frequently cited as an indicator of college affordability is “unmet need.”<sup>3</sup> The basic concept is a good one—how much more does a student have to pay for college than she can afford to pay? But there are many problems with the current definition. Measures of unmet need take as a given that the “expected family contribution (EFC)” derived from the federal need analysis formula (FM) is a reliable measure of what a student can afford. Unmet need is then defined as the

total cost of attendance (including room and board and other expenses) at the institution where the student is enrolled less the sum of financial aid received and the EFC. It is, of course, not possible to measure this gap for students who are *not* enrolled, and these are likely to be the students for whom the financial barriers are greatest. Those who are enrolled are apparently managing to scrape together the needed funds.

Unfortunately, the calculated EFC is not a good estimate of what families can really afford to pay, and it is an even worse estimate of what students can reasonably be expected to pay for their own education. The formula is the result of years of political manipulation and does not rest on any careful analysis of ability to pay for higher education. Among the many problems with the formula, it is based on one year of income and is designed to estimate manageable payments out of that income. Most people consider calculated EFCs too high to be paid out of current income, but there has been little attempt to estimate reasonable payments out of longer-term resources.

Using the concept of calculated unmet need to define affordability without first developing a reasonable definition of what is affordable and how to improve on the EFC as a measure of that amount simply avoids the fundamental issue.

A measure of what is affordable is only the first step in developing a more meaningful concept of unmet need. How to treat loans and tax credits in measuring resources is not simple. All of the questions raised above about which resources and which expenses should be considered also apply here.<sup>4</sup> Should the cost of food be included as part of “unmet need” in determining college affordability? Should high unmet need at a high-price institution with limited grant aid be the metric for college affordability just because a student chose this option? Unmet need provides some information, especially if measured over time. But it is far from a reliable metric of the gaps we should be filling in in order to assure adequate access to postsecondary education.

### Expensive vs. Unaffordable

Many discussions of college being “unaffordable” focus on rising tuition prices, without much attention to the resources available to students to pay those prices. For example, the Department of Education’s College Affordability and Transparency Center lists colleges and universities with the highest and lowest tuition and net cost of attendance by sector as well as schools with the highest percentage increase in tuition by sector.<sup>5</sup> A Huffington Post blog announces that “It’s Too Expensive to Go to College Anymore.”<sup>6</sup> The Washington Post’s *Wonkblog* runs a series entitled, “The Tuition is Too Damn High.”<sup>7</sup>

When resources are considered, the most common approach is to cite the average published tuition and fee price as a percentage of median family income or as a percentage of family income for dependent students at different levels of the income distribution.<sup>8</sup> Sometimes the reference is to the total cost of attendance, including room and board and other expenses (making the situation look worse) and sometimes it is to the net price, taking grant aid into consideration (making the situation look better).

The discussion above makes it clear that this simple approach is inadequate. First and foremost, it focuses only on resources available before college, without attention to the return on the investment. Moreover, it provides no insights into how students whose parents either have no available resources or are not in the picture might think about how much they can afford for college. And it makes no distinction between changes resulting from rising prices and those resulting from declining incomes or changing asset levels.

Like any other purchase, any given postsecondary option becomes more affordable either if its price declines or if an individual (or family) has increased resources. Rising concerns about college affordability are not just the result of rising published prices—and net prices that are rising, albeit more slowly than published prices. The reality is that as incomes have fallen or stagnated in recent years

for all except those at the top of the income distribution, and as home values—where many people hold most of their wealth—plummeted, household budgets have become increasingly strained. If it is challenging to cover daily expenditures, the idea of a major expenditure being added on becomes all the more daunting. At least for families with children graduating from high school, the expenditure is not unanticipated. If they were saving over time in preparation, education would be much more affordable. But absent this not-so-frequent pattern, many families are overwhelmed.

### Uncertain Outcomes

Another reason for the concern is the increased visibility of uncertainty in the return to postsecondary education. Particularly in an economy characterized by high unemployment, a college education does not guarantee an immediate, satisfying and remunerative employment opportunity. As the experiences of the minority of college graduates facing real struggles in the labor market have gotten more attention, the problem is not just the rising price of college. It is also the question of whether the return is worth the investment. All of these issues are part of the complete story of college affordability.

## Section 2: Affordable for Whom?

### Focusing on the Student, Not the Parents

Focusing only on family income at the time students enroll in college is an inadequate method for determining what is affordable. This approach provides little insight into how older students might finance postsecondary education. It ignores the question of how much students themselves—whether dependent or independent—can afford to pay out of the significant earnings premium most students experience as a result of postsecondary education.

Current measures of ability to pay are quite generous to independent students with dependents of their own, because the costs of supporting their families are taken into account. Most are not assumed to be able

to contribute at all.<sup>9</sup> If so many students really had no capacity to contribute to either their tuition or their living expenses while in school, we would have to question whether the education is really worth it. Why should either students or taxpayers struggle to buy an expensive service that will generate debt, deficits, and hardships, unless there is a high payoff? Certainly improvements in quality of life, broadened horizons, personal growth, and more effective citizenship are worth quite a bit. But students are exerting considerable effort and taxpayers are setting priorities in order to assure a more productive labor force and more financially self-sufficient households. The return to the investment should be considered in discussions of how much students can afford to pay for college.

We propose thinking about affordability for older independent students and younger dependent students in an integrated manner, rather than accepting the current rather arbitrary dividing line between younger students, whose parental resources contribute to their ability to pay, and older students, who are expected to rely only on their own resources. *College affordability applies to students, not to parents. Parents can subsidize students to make college more affordable for them. But the focus should be on the students themselves.*

One of the reasons making postsecondary education accessible to all who can benefit from it is so important is because in most cases, it increases earnings over a lifetime. Abstracting from the vital non-pecuniary benefits of a college education, it is a good investment if it has a favorable rate of return.<sup>10</sup> So a central question is whether the present discounted value of the increase in the student's lifetime earnings will be high enough to yield a reasonable rate of return on his or her investment.

This logic applies to all students, whether they are still dependent on their parents or not. Of course for each individual student, future earnings and thus the return on investment are uncertain. But focusing on averages is sufficient for a conceptual discussion. If the expected return is not high enough, then another educational

path is probably advisable. Even if a student has wealthy parents who can pay cash up front without asking for any contribution from the student's current or future earnings, the investment may be a poor one if the funds could be better invested elsewhere.

Using this framework, the core question of affordability applies not to parents, but to students. If we focus on parental income before college, we would conclude that young people growing up in low-income households cannot afford to pay anything for college. But that is illogical. They cannot afford *not* to go to college if that is the route to assuring a secure future for themselves and their families. And they can afford to dedicate some portion of their increased future earnings to paying for college.

A constructive way to incorporate parental resources into this investment framework is to think of parental contributions as reducing the price that students must pay. In the same way that a Pell Grant—a subsidy from the federal government—reduces the net price to a student, a similar subsidy from parents reduces the net price to a student. This logic allows us to focus only on affordability for students, regardless of their age or family situations. Part of the determination, however, depends on how much of a subsidy it is reasonable to expect each student to receive from parents or from other sources.

How much can a student afford to pay for college? This depends on their expected earnings premium. Adding the amount the student can afford to pay to subsidies received from parents and/or from financial aid yields an estimate of the price tag that is affordable. Some difficult judgments will of course arise. And in many cases, maximizing lifetime earnings—as opposed to generating sufficient lifetime earnings—may be both unnecessary and undesirable.

## Section 3: Judging the Price of College

### Trends in Published Prices and Net Prices

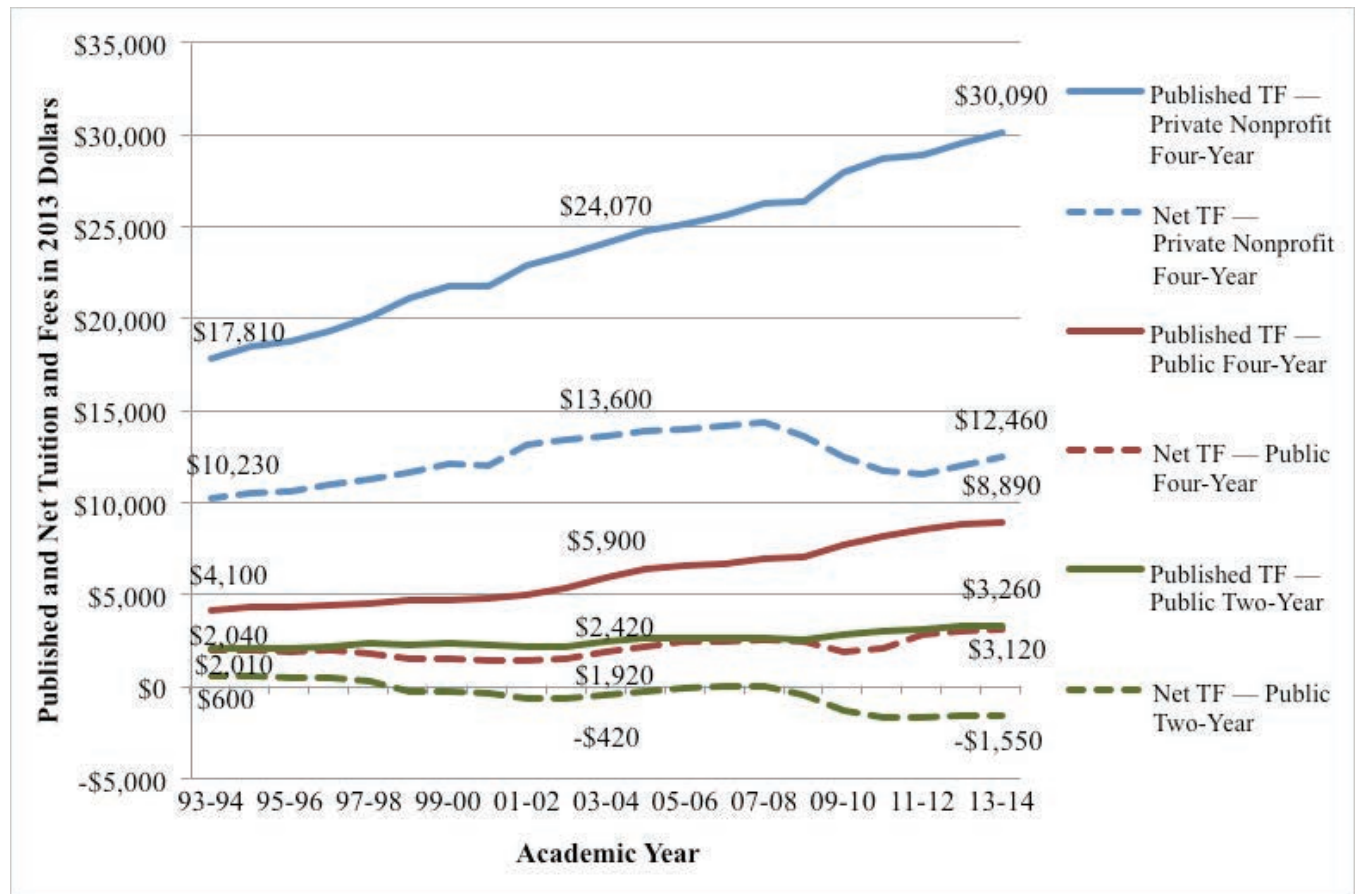
It is widely recognized that the rate of increase in the published tuition and fee price of college has far exceeded the rate of increase in average prices in the economy over time. This reality makes college appear increasingly “unaffordable.” During the 20-year period from 1993-94 to 2013-14, the Consumer Price Index (CPI) increased by 62%, while published tuition and fee prices increased by 162%, 251%, and 173% in the public two-year, public four-year, and private nonprofit four-year sectors, respectively, before adjusting for inflation.<sup>11</sup> After adjusting for inflation, average published tuition and fees increased by 62%, 117%, and 69%, respectively, in the three sectors over 20 years. But changes in net tuition and fees—the amount students actually pay after taking grant aid and tax benefits into consideration—tell a much different story.

Figure 1 shows inflation-adjusted published and net tuition and fee prices by sector from 1993-94 to 2013-14. During this 20-year time period, net tuition and fee prices increased at much slower rates than published prices in the four-year sectors—by 53% (from \$2,040 in 2013 dollars to \$3,120) in the public four-year sector and by 22% (from \$10,230 in 2013 dollars to \$12,460) in the private nonprofit sector. Average net tuition and fees for full-time students in the public two-year sector declined during this period, from \$600 in 2013 dollars in 1993-94 to -\$1,550 in 2013-14.

As discussed above, including living expenses in the cost of going to college is questionable, since people must have food and housing whether or not they are in school. Nonetheless, since these are expenses that students must pay, it is important to examine them. As Figure 2 on page 9 shows, the patterns are similar when room and board are included. The percentage increases in inflation-adjusted net tuition, fee, and room and board (TFRB) charges are much smaller than those in published TFRB charges for all sectors.



**Figure 1:** Published and Net Tuition and Fees (TF) in 2013 Dollars, by Sector, 1993-94 to 2013-14



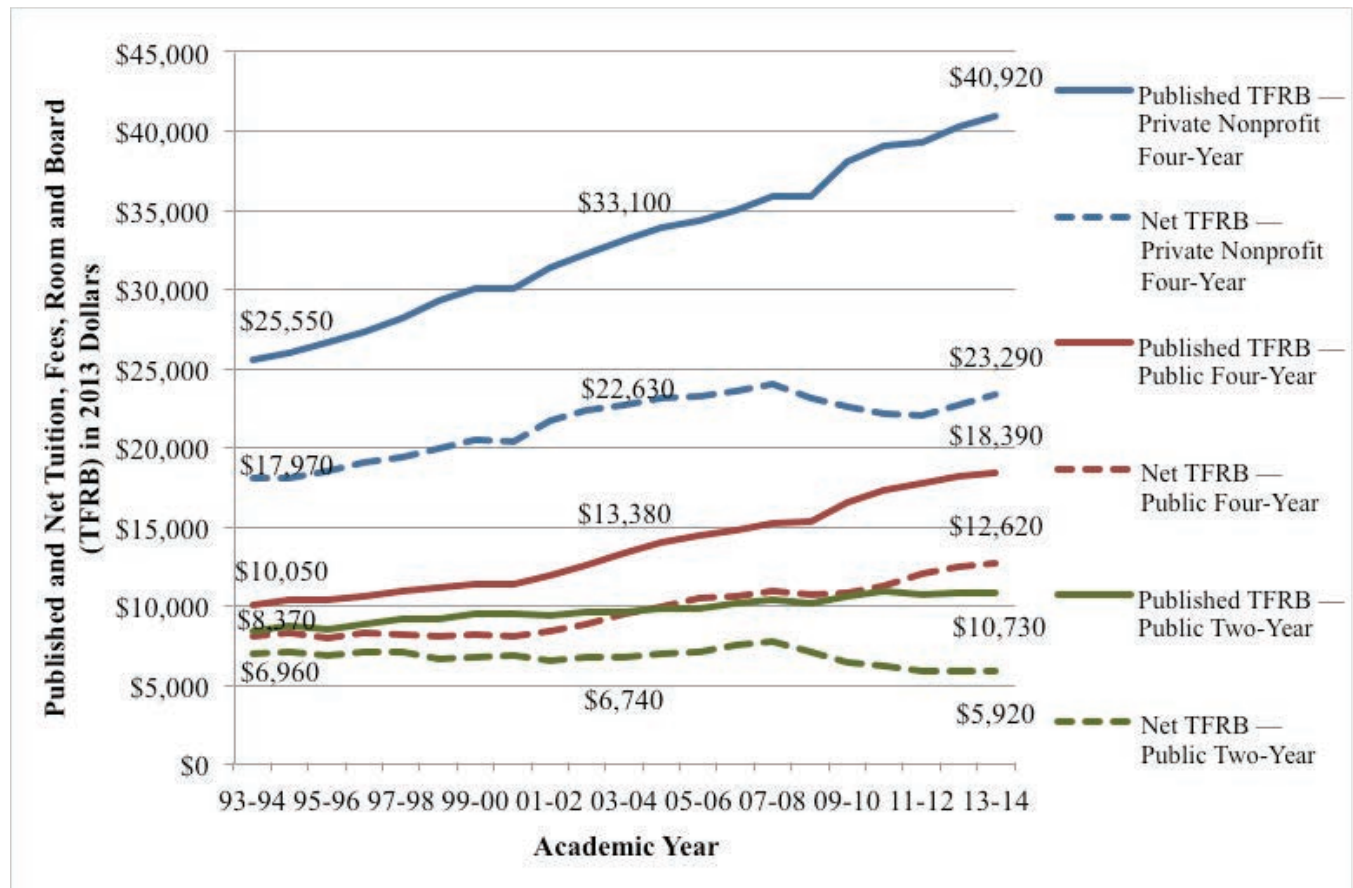
	Public Two-Year		Public Four-Year		Private Nonprofit Four-Year	
	Published TF	Net TF	Published TF	Net TF	Published TF	Net TF
1993-94	\$2,010	\$600	\$4,100	\$2,040	\$17,810	\$10,230
2003-04	\$2,420	-\$420	\$5,900	\$1,920	\$24,070	\$13,600
2013-14	\$3,260	-\$1,550	\$8,890	\$3,120	\$30,090	\$12,460
20-Year \$ Change	\$1,250	-\$2,150	\$4,790	\$1,080	\$12,280	\$2,230
20-Year % Change	62%	-358%	117%	53%	69%	22%

**Note:** Published tuition and fee prices in the public two-year and public four-year sectors reflect prices charged to in-state students. Net tuition and fee prices are calculated by subtracting total grant aid from all sources and federal education tax credits from published prices.

**Source:** The College Board, *Trends in College Pricing 2013*, online Tables 2, 7, and 8.



**Figure 2:** Published and Net Tuition, Fees, Room and Board (TFRB) in 2013 Dollars, by Sector, 1993-94 to 2013-14



	Public Two-Year		Public Four-Year		Private Nonprofit Four-Year	
	Published TFRB	Net TFRB	Published TFRB	Net TFRB	Published TFRB	Net TFRB
1993-94	\$8,370	\$6,960	\$10,050	\$7,990	\$25,550	\$17,970
2003-04	\$9,580	\$6,740	\$11,380	\$9,400	\$33,100	\$22,630
2013-14	\$10,730	\$5,920	\$18,390	\$12,620	\$40,920	\$23,290
20-Year \$ Change	\$2,360	-\$1,040	\$8,340	\$4,630	\$15,370	\$5,320
20-Year % Change	28%	-15%	83%	58%	60%	30%

**Note:** Published tuition and fee prices in the public two-year and public four-year sectors reflect prices charged to in-state students. Net TFRB charges are calculated by subtracting total grant aid from all sources and federal education tax credits from published TFRB prices.

**Source:** The College Board, *Trends in College Pricing 2013*, online Tables 2, 7, and 8.

A relevant question is whether living expenses differ for college students and others of similar ages. It is clear that if it is necessary to set up a separate household, expenses rise. But is there any indication that either rent or food is higher for students than for others? Data from the Consumer Expenditure Survey show that in 2011–2012, adults 25 or younger living alone spent an average of \$2,900 on food and \$4,500 on rent per year.<sup>12</sup> The total spending on food and rent (\$7,400) is similar to the room and board expenses for public two-year commuters (\$7,466 in 2013-14), but lower than the room and board charges at both public four-year (\$9,498) and private nonprofit four-year (\$10,823) schools. However, it is worth noting that only 55% of full-time undergraduate students in the private nonprofit sector and 30% in the public four-year sector lived on campus in 2011-12.<sup>13</sup>

Another commonly-cited measure of price is the total cost of attendance (COA), which includes estimated budgets of books and supplies, transportation, and other

expenses in addition to tuition and fees and room and board. In 2013-14, these non-TFRB budget items account for 33% of the COA for full-time public two-year students, 19% for public four-year students, and 9% for private nonprofit four-year students (Table 1). These non-TFRB budget items exceed the published in-state tuition and fees for public two-year students and are 50% and 13% of published tuition and fees for full-time public four-year in-state and private nonprofit four-year students, respectively.

### A Context for College Prices

It may be helpful to put college price changes in context. In 1971, the median price of houses sold was \$25,600. Published in-state tuition and fees for four years at public four-year colleges and universities averaged \$1,712, about 7% of the price of a house. By 2006, the median price of a house had increased by a factor of about 10, to \$250,400. Over the same time, the average in-state tuition and fee price of four years at a public college rose to \$23,216,

**Table 1:** Average Estimated Full-Time Undergraduate Budgets, 2013-14 (Enrollment-Weighted)

Sector	Tuition and Fees (TF)	Room and Board	Books and Supplies	Transportation	Other Expenses	Cost of Attendance (COA)	Non-TFRB Expenses as a % of Total COA	Non-TFRB Expenses as a % of TF
Public Two-Year In-State Commuter	\$3,264	\$7,466	\$1,270	\$1,708	\$2,225	\$15,933	33%	159%
Public Four-Year In-State On-Campus	\$8,893	\$9,498	\$1,207	\$1,123	\$2,105	\$22,826	19%	50%
Private Nonprofit Four-Year On-Campus	\$30,094	\$10,823	\$1,253	\$990	\$1,590	\$44,750	9%	13%

**Source:** The College Board, *Trends in College Pricing 2013*, Figure 1.

about 14 times as high as it had been 35 years earlier. The average published in-state tuition and fee price for four years at public four-year colleges increased from 7% to 9% of the price of a house. Between 2006 and 2011, housing prices fell by 15%, while average public four-year published in-state tuition and fees rose by 43%.<sup>14</sup>

As mentioned earlier, net tuition and fee prices have been rising at a much slower pace than published tuition and fee prices. Between 1991 and 2011, the average net tuition and fees for four years at public four-year colleges increased from 4% to 5% of the price of a house.

On one hand, if housing prices and college prices rise at the same rate, the trade-off between buying housing and buying education remains constant.<sup>15</sup> In other words, if housing prices are rising at the same rate, rising college prices do not seem so “unaffordable.” Moreover, as housing prices rise, people who already own homes, as is the case for the parents of many college students, experience increases in net worth providing resources to pay for college. On the other hand, if monthly housing expenses rise for new homebuyers or for renters, people with given incomes have lower discretionary incomes out of which to pay for education, making education less affordable.

Houses are an exception because they act as a store of wealth, as opposed to something people have to buy

out of their incomes, along with paying for education. As the price of college rises relative to other prices, people have to give up more consumption of other goods and services in order to pay for college. A thorough analysis of this issue would require more data and analysis than this discussion can include, but a brief look will elucidate the question. The Consumer Price Index for (published) college tuition and fees was 3.14 times as high in 2013 as in 1993. In contrast, the CPI for legal services was 2.20 times as high and the CPI for food at home was 1.67 times as high as in 1993. This means that consumers had to give up more in terms of legal services or food at home in order to pay the published price for a year of college.<sup>16</sup>

Table 2 provides some examples of the change in relative prices of tuition and some other goods and services. For example, in 2013 consumers could, on average, purchase 2.9 times as many new cars in exchange for a year of tuition as they could have purchased in 1993. This perspective on the rising price of college would be moderated if we focused on net price instead of published price, but provides a powerful insight into concerns over declining affordability.

As Archibald and Feldman (2012) point out, if other goods and services get relatively cheaper, there is more discretionary income and people should be able to pay higher prices for college.<sup>17</sup> But the rising relative price of

**Table 2:** Amount of Other Goods and Services That Could Be Purchased for Average Published Tuition and Fee Price Relative to 1993

	All Items	Information Technology Hardware & Services	New Vehicles	Food at Home	Child Care & Nursery School	Rent of Primary Residence	Legal Services	College Tuition and Fees
1993	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
2003	1.4	8.5	1.7	1.4	1.1	1.3	1.1	1.0
2013	1.9	29.0	2.9	1.9	1.4	1.8	1.4	1.0

**Source:** Bureau of Labor Statistics, Consumer Price Index Customized Tables, <http://data.bls.gov/cgi-bin/dsrv?cu;> calculations by the authors.

college makes it appear less affordable, whether or not people are actually less able to pay for it.

### Choosing Benchmarks

An issue that distinguishes paying for college from paying for many other goods and services is the gap between the actual required expenditures and perceptions of that expenditure. The car market is similar in some ways.

If I want to buy a new car, there are many options with many different price tags and the price I will actually pay depends on how successfully I can negotiate with the salesperson. Most people borrow at least a portion of the price and pay over time. But for most purchases, people can look at the price tag and decide on the spot whether they are able and willing to pay or not.

Some of the recent efforts to increase the information available to students choosing postsecondary educational paths seem to be modeled on the automobile market. In addition to the wide variety of models available and the gap between sticker prices and prices paid, both education and cars are products that are difficult for consumers to evaluate. Walking around a campus or exploring the website provides only superficial information. The same is true of a test drive. The stakes are high in both cases—safety in the case of automobiles. But government regulation allows shoppers to trust that all available models are safe and to focus on less critical characteristics that fit their personal preferences and pocketbooks.

While in theory the accreditation process and the provision of federal student aid should eliminate “unsafe” colleges, it’s not at all clear that this is the case. And while for students choosing among elite residential colleges, the food in the dining hall, the quality of the athletic facilities, and the level of political activism among the student body might be analogous to the design differences among automobiles, many of the differences among institutions are much more critical.

Moreover, the car is the same regardless of who is driving it. The college experience depends at its core on the

relationship between the student and the institution and the best college for one individual might be a very poor choice for another. As long as the cars are safe, we don’t really worry about whether some people can afford only a budget car while others can choose a luxury car. But a low-tuition community college offers very different opportunities than a public flagship university.

This complicates the affordability question quite a bit. Do we just want to assure that students can afford the lowest-price option? Do we have to assure that all students can choose among any institutions for which they are academically prepared, regardless of price? Surely the answer lies somewhere in between these two extremes.

### Actual vs. Perceived Affordability

How should we evaluate a policy that increases affordability but not perceived affordability? If people perceive postsecondary education as unaffordable, they are likely to make decisions that limit their participation and success. Some policies that increase affordability from an objective perspective may not significantly affect that perception. Federal tax credits provide a good example. Federal subsidies to college students and their families through tax credits and deductions increased from about \$7 billion in 2007-08 to about \$17 billion in 2009-10.<sup>18</sup> Clearly, these tax policies reduce the price people pay and make college more affordable. But because people don’t associate their lower tax bills directly with their tuition bills, they are likely not to feel that they can actually afford to pay an extra \$2,500 a year for college as a result of a \$2,500 a year tax credit.

This difference between perception and objective reality raises the question of whether just lowering prices or just providing more financial aid really has the desired impact. Insights from the burgeoning field of behavioral economics are helpful here. The idea is not that people fail to respond to monetary incentives, but that their responses do not always follow the model of purely rational economic agents. People make judgments based on the information that is most salient in their

minds, rather than by weighing all of the facts and figures. If they hear every day that college prices are skyrocketing, that college is out of reach for all but the wealthy, they are likely to believe that. They may have no idea that financial aid is available. The complexity of the aid and pricing systems compounds the problem.

How things are framed also matters. The example of the recent proposal in Oregon to “Pay It Forward” is instructive. The proposal would eliminate up-front tuition payments and replace them with the requirement that students pay a percentage of their incomes for a specified number of years after they leave school. The proposal is described as: “Pay It Forward (HB 3472) will provide access for all Oregonians to a debt-free degree and protect funding for public higher education.”<sup>19</sup> A requirement to make payments later is a debt by another name. But

calling it something other than debt seems to have a big psychological impact, allowing people to breathe a sigh of relief.

### Variation in Prices

As discussed above, the net prices students actually pay have risen more slowly over time than published tuition and fee prices. The differential between the two prices varies considerably across income levels and average net prices conceal very different scenarios for students in different circumstances.

For example, for low-income students enrolled in public research universities, the average net tuition and fee price (in 2011 dollars) declined from -\$703 in 1999-2000 to -\$1,647 in 2007-08, before rising to -\$1,064 in 2011-12. In other words, grant aid left low-income students with more funding to cover non-tuition expenses in 2011-12

**Table 3:** Net Tuition and Fees and Net Cost of Attendance in 2011 Dollars at Public Research Universities, by Family Income Quartile of Full-Time Dependent Students, 1999-2000 to 2011-12

Quartile of Parents’ Income of Dependent Students	1999-2000	2003-04	2007-08	2011-12	\$ Change from 1999-2000 to 2011-12
<b>Net Tuition and Fees</b>					
Lowest	-\$703	-\$674	-\$1,647	-\$1,064	-\$361
Second	\$1,983	\$2,724	\$1,661	\$3,075	\$1,092
Third	\$4,374	\$4,775	\$5,588	\$7,165	\$2,791
Highest	\$5,552	\$6,282	\$7,289	\$9,431	\$3,879
<b>Net Cost of Attendance</b>					
Lowest	\$10,750	\$11,520	\$11,960	\$12,978	\$2,229
Second	\$13,473	\$14,832	\$14,817	\$17,006	\$3,533
Third	\$15,962	\$17,089	\$18,954	\$21,193	\$5,231
Highest	\$17,171	\$18,791	\$20,924	\$23,727	\$6,556

**Note:** Net prices are calculated by subtracting grant aid from all sources and veterans’ benefits from published tuition and fees and cost of attendance. Income categories (all in 2011 dollars) for each year are: lowest: less than \$30,000; second: \$30,000 to \$64,999; third: \$65,000 to \$105,999; highest: \$106,000 or higher.

**Source:** NCES, NPSAS: 2000, 2004, 2008, and 2012.

than in 1999-00 or in 2003-04. If room and board and other expenses in students budgets are also included, the average net price for low-income students increased by \$2,229 (in 2011 dollars) or 21% from 1999-2000 to 2011-12.

The picture is quite different for the third income quartile (with incomes between \$65,000 and \$105,999 in 2010). For these upper-middle-income students, the average net tuition and fee price at public research universities has increased at an accelerating rate and was 64% (\$2,791 in 2011 dollars) higher in 2011-12 than in 1999-00. Focusing on total costs of attendance diminishes the contrast across income groups, yielding an increase of 33% or \$5,231 for these students.

These figures suggest increasing affordability issues for the third income quartile of dependent undergraduate students. But comparing net prices for these students across types of institutions reveals that the net price increase has been larger for public research universities than for other sectors (Table 4). For example, at private research universities, net tuition and fees increased by 10% in real terms for this group over this time period (total cost of attendance increased by 21%).

These examples illustrate the difficulty of finding one answer about how the price of college has changed over time—even before comparing that price to the resources available to pay.

### Opportunity Costs

A very real cost of attending college is the opportunity cost of time. If students leave the labor force in order to study, their forgone wages are a cost of going to college. In reality, many college students work at least part time, complicating the task of measuring this cost. Opportunity cost is rarely included in discussions of college affordability, but it is useful to develop some approximations and consider the impact of changes in forgone wages on affordability.

Between 2002 and 2012, median earnings for male high school graduates between 18 and 24 increased by 3%, from \$14,560 to \$15,000. This amounted to a 19% decline after accounting for inflation. Women's median earnings declined in both nominal and real terms during this 10-year period—9% in nominal and 29% in real terms. In other words, the opportunity cost of going to college declined over this time period.

**Table 4:** Net Tuition and Fees in 2011 Dollars for Third Income Quartile of Dependent Undergraduates, 1999-2000 to 2011-12

Carnegie Classification	1999-2000	2003-04	2007-08	2011-12	% Change from 1999-2000 to 2011-12
Public Associate	\$1,434	\$1,576	\$1,949	\$1,906	33%
Public Research	\$4,374	\$4,775	\$5,588	\$7,165	64%
Public Master's	\$3,696	\$4,060	\$4,402	\$5,587	51%
Public Bachelor's	\$4,083	\$4,594	\$4,875	\$5,494	35%
Private Research	\$14,627	\$18,967	\$18,117	\$16,156	10%
Private Master's	\$9,394	\$11,562	\$13,172	\$13,582	45%
Private Bachelor's	\$10,309	\$10,410	\$13,788	\$12,317	19%

**Source:** NCES, NPSAS: 2000, 2004, 2008, and 2012.



Discussions of the increase in college enrollments during recessions frequently acknowledge that limited labor market opportunities contribute to greater participation in postsecondary education. But it is not so easy to think of declines in wages as making college more affordable. If the declines persist and students have lower earnings after they leave school, they will have less ability to pay for college. But changes in the opportunity cost of college are a critical component of the cost of college. For men who are giving up \$15,000 a year of earnings to go to college, tuition at public two-year and four-year colleges becomes a relatively small part of what they are paying if they leave the labor market to spend a year in college.

### Section 4: How Much Can Families Afford to Subsidize Their Children?

Students whose parents are in a position to subsidize their college education can afford to pay more than others because they can combine their own resources with parental resources. Students who do not have parents who can subsidize them are likely to require grant aid from other sources to supplement what they can pay out of their future earnings premium.

Determining the subsidy amount that is reasonable to expect from parents is the question usually framed as how much the student (and family) can afford to pay. As noted above, it is common to cite the ratio of the net price of college to family income. But it is not easy to evaluate these ratios.

A family with a higher income can afford to contribute a higher percentage of their income for college, all other things equal, so one benchmark percentage is not adequate. Moreover, a precise definition of what is affordable for the family is not possible, but defining discretionary income is a reasonable starting point.

Through much of the 20th century, the Bureau of Labor Statistics (BLS) constructed living standards based on the prices of market baskets of goods. However, more

recently the consensus is that observing how much households in different circumstances actually spend is a more constructive approach than attempting to prescribe how much they should be spending.<sup>20</sup> In other words, rather than specifying that people should consume the most basic diet that provides the necessary nutrients, we should look at how much households at the 25th or 50th percentile of the income distribution spend on food and use that as a standard.

The federal poverty guidelines are prescriptive rather than descriptive, but are used to determine eligibility for a number of means-tested public programs. The Economic Policy Institute's Family Budget Calculator estimates that all families need more than twice the federal poverty line to get by.<sup>21</sup> The 2013 poverty guidelines for the 48 contiguous states from the U.S. Department of Health and Human Services are shown in Table 5.

Considering income exceeding a specified percentage of the poverty line discretionary will have a very different impact over time from using median income as a benchmark because the poverty line, which is adjusted annually for changes in the Consumer Price Index, tends to decline relative to median income. As Table 6 shows,

Table 5: 2013 Federal Poverty Guidelines

Number in Household	2013 Federal Poverty Guideline
1	\$11,490
2	\$15,510
3	\$19,530
4	\$23,550
5	\$27,570
6	\$31,590
7	\$35,610
8	\$39,630

**Source:** U.S. Department of Health and Human Services, Poverty Guidelines, <http://aspe.hhs.gov/POVERTY/13poverty.cfm#guidelines>.

**Table 6:** Median Family Income and Poverty Guidelines in Current Dollars for Families with Four People, 1982 to 2012, Selected Years

	Median Family Income	Poverty Guideline	200% of Poverty Guideline	200% Poverty Guideline/Median Family Income
1982	\$27,619	\$9,300	\$18,600	0.67
1987	\$37,086	\$11,200	\$22,400	0.60
1992	\$44,251	\$13,950	\$27,900	0.63
1997	\$53,350	\$16,050	\$32,100	0.60
2002	\$62,732	\$18,100	\$36,200	0.58
2007	\$75,675	\$20,650	\$41,300	0.55
2012	\$79,698	\$23,050	\$46,100	0.58

**Sources:** U.S. Census Bureau, Income, Poverty and Health Insurance in the United States: 2012, Historical Income Table F-8, <http://www.census.gov/hhes/www/income/data/historical/families/>; U.S. Department of Health and Human Services, Poverty Guidelines, <http://aspe.hhs.gov/POVERTY/figures-fed-reg.cfm>.

200% of the poverty guideline for a family of four was \$18,600 in 1982, 67% of the \$27,619 median income of families of four. By 1992, the ratio had declined to 63% and in 2012, 200% of the poverty guideline for a family of four was \$46,100, 58% of the \$79,698 median income of families of four.

If we assume that a family with income below 200% of the poverty guideline cannot afford to make a measurable contribution to tuition and fees for children, the simplest way to derive an approximation of how much a family can afford to contribute is to assume a fixed percentage of income exceeding the threshold of 200% of the poverty level.<sup>22</sup> As Table 7 on page 17 illustrates, this type of formula yields contribution-to-income ratios that increase with income. Choosing, for example, 25% would yield estimated contributions from parents of only 1% of total income of \$50,000 (just above 200% of poverty), of 10% of total income of \$80,000 (approximately median family income), and 18% of total income \$160,000 (about twice median family income).

Without making judgments about the exact optimal schedule, it is possible to use this approach as the

foundation for assuming that students from higher-income families can afford to pay more for college than others (absent financial aid) because they should expect subsidies from their parents, diminishing the portion of their education they must finance on their own.

However, this simple formula assumes that parents can contribute only out of their current incomes. It is more reasonable to assume that parents can plan for college, save over time, make contributions from assets, and even borrow against future income. One possibility, desirable because of its simplicity, is to use current income as a proxy for longer-term financial capacity. This becomes more reasonable if instead of using only one year of income, we look at three or more years of income, a viable possibility if data from the Internal Revenue Service are available.

Before accepting this approach, however, it is useful to gain some insight into the savings and asset accumulation patterns of families in different circumstances, as well as income stability over time. Aggregate data confirm that family incomes are sensitive to business cycles and assuming a steady rate of growth



**Table 7:** Total Family Income, Discretionary Income, and Potential Contribution from Discretionary Income for Families with Four People, 2013

Family Income	Discretionary Income (Total Income minus 200% of Poverty Guideline)	Contribution from Discretionary Income					
		50%		25%		10%	
		Dollars	As a % of Total Income	Dollars	As a % of Total Income	Dollars	As a % of Total Income
\$40,000	-\$7,100	\$0	0%	\$0	0%	\$0	0%
\$50,000	\$2,900	\$1,450	3%	\$725	1%	\$290	<1%
\$60,000	\$12,900	\$6,450	11%	\$3,225	5%	\$1,290	2%
\$80,000	\$32,900	\$16,450	21%	\$8,225	10%	\$3,290	4%
\$100,000	\$52,900	\$26,450	26%	\$13,225	13%	\$5,290	5%
\$120,000	\$72,900	\$36,450	30%	\$18,225	15%	\$7,290	6%
\$140,000	\$92,900	\$46,450	33%	\$23,225	17%	\$9,290	7%
\$160,000	\$112,900	\$56,450	35%	\$28,225	18%	\$11,290	7%

over time is likely to over-burden families affected by recessions.

### Income over time

As Figure 3 on page 18 shows, between 1982 and 2007, median family income in the United States increased by 27% and 33% for all families and for families of four, respectively, after adjusting for inflation. Median family income for all families peaked at \$67,944 in 2007 and was \$62,241 by 2012. Median family income for families of four peaked at \$83,802 in 2007 and was \$79,698 in 2012.

Perhaps more important for determining the validity of basing expected contributions from parents on a single year of income information is an understanding of changes in relative incomes, which would affect the equity of expectations across families. The rate of change in median income underestimates the growth in incomes at the top and overestimates changes at the bottom of the income distribution. As Figure 4 on page 19 shows, average income for families in the lowest income quintile was the same in real terms in 2012 as it had been in 1982. Over these thirty years, average income increased by 16% for the middle quintile, by 53% for the highest quintile, and by 87% for the top 5% of families in the U.S.

This reality implies that using the most recent year of income as an indicator of long-term financial capacity over-estimates the contributions we should expect from lower-income families relative to those we should expect from more affluent families.<sup>23</sup>

### Savings

At the national level, the personal saving rate experienced a slight upward trend between 1952 and 1975, from 11.1% to 13.0% (Figure 5 on page 20). Between 1975 and 2005, it declined sharply from 13.0% to 2.6%. Since 2005, the saving rate has been going up, reaching 5.6% in 2012.

The overall decline in the saving rate contributes to an understanding of the difficulties families experience in subsidizing their children's education. Low levels of accumulated savings, combined with annual expenditures that consume all or almost all of a family's income, make this added demand all the more challenging.

Not surprisingly, higher-income families save higher percentages of their incomes than lower-income families. Estimates suggest that saving rates range from 1% for families in the lowest income quintile to 24% for families in the highest quintile, a figure heavily affected

by the 51% saving rate of the top 1%.<sup>24</sup> If the lowest 20% of families—those with incomes below \$27,795 in 2012—are expending their entire incomes, they will have considerable difficulty contributing measurable amounts to their children's education.

The disparity in saving rates and the growing inequality in income make it unsurprising that, as shown in Table 8 on page 21, inequality in net worth has increased over time, making it more difficult—at least in relative terms, for middle-income families to subsidize their children's education by relying on contributions from assets.

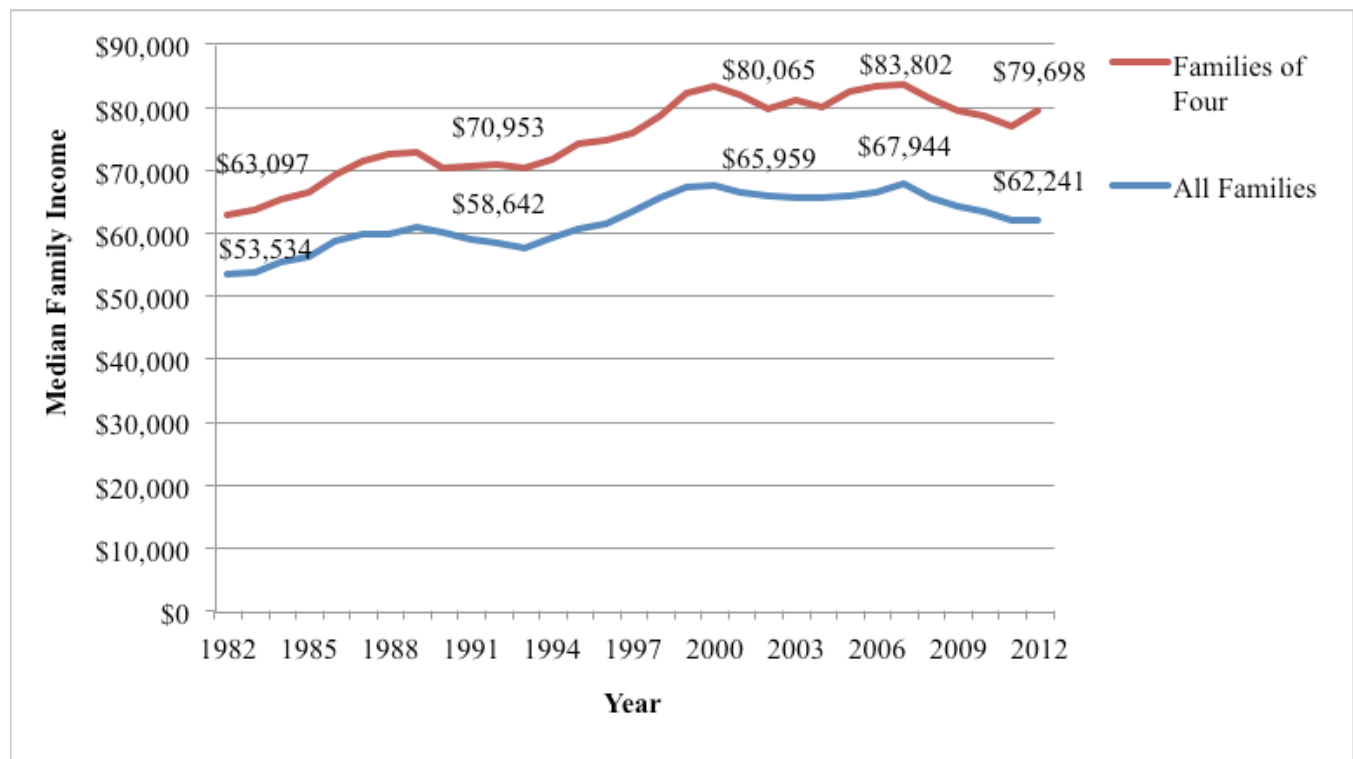
Monitoring changes in the distribution of income, in the saving rate, and in the distribution of net worth across families cannot yield a precise estimate of what families can afford to contribute to postsecondary education,

but it sheds light on both changes in that capacity and differences across families.

## Section 5: How Much Can Students Afford to Contribute Out of Income?

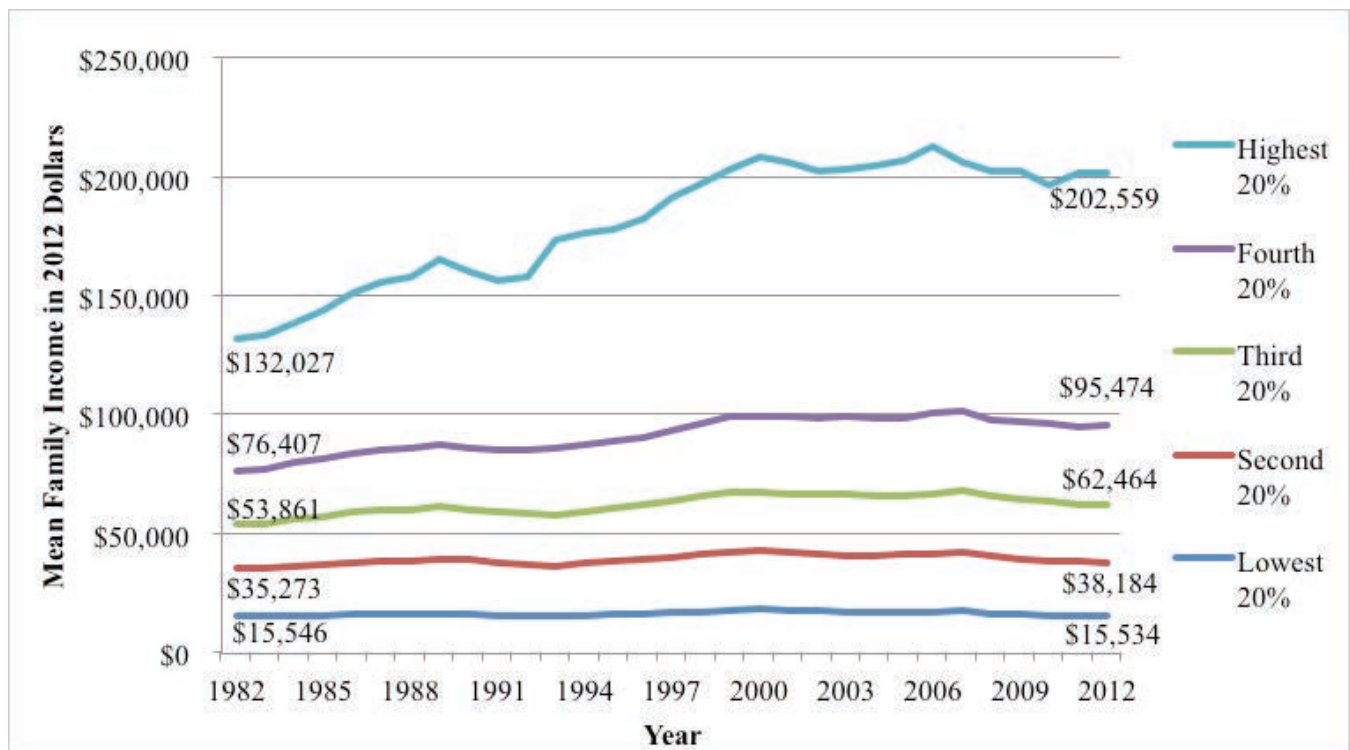
The difference between the average earnings of high school graduates and the average earnings of adults of similar ages with some college, associate degrees, or bachelor's degrees is an imperfect measure of the amount by which an individual's earnings increase as a result of their investment in postsecondary education. Some of the differential may be attributable to systematic differences in the personal characteristics of people with different levels of education. And there is considerable variation in earnings within educational categories.

**Figure 3:** Median Family Income in 2012 Dollars for All Families and Families of Four People in the United States, 1982 to 2012



**Source:** U.S. Census Bureau, Income, Poverty and Health Insurance in the United States: 2012, Historical Income Table F-8, <http://www.census.gov/hhes/www/income/data/historical/families/>.

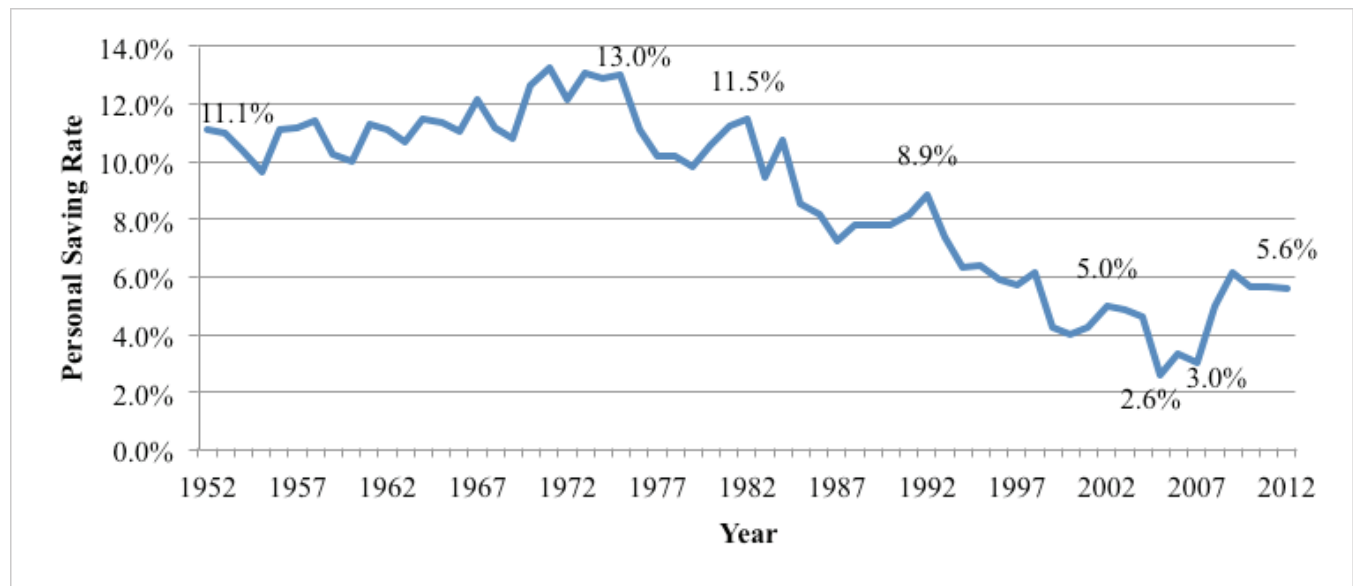
**Figure 4:** Mean Family Income in 2012 Dollars by Quintile, 1982 to 2012



	Lowest 20%	Second 20%	Third 20%	Fourth 20%	Highest 20%	Top 5%
\$ Change 1982–2012	-\$12	\$2,911	\$8,603	\$19,067	\$70,532	\$163,442
% Change 1982–2012	0%	8%	16%	25%	53%	87%
2012 Income Bracket	\$27,794 or less	\$27,795 to \$49,788	\$49,789 to \$76,538	\$76,539 to \$119,001	\$119,002 or more	\$210,001 or more
2012 Mean Income	\$15,534	\$38,184	\$62,464	\$95,474	\$202,559	\$352,338

**Source:** U.S. Census Bureau, Income, Poverty and Health Insurance in the United States: 2012, Historical Income Table F-3, <http://www.census.gov/hhes/www/income/data/historical/families/>.

**Figure 5:** Personal Saving Rate in the United States, 1952 to 2012



**Note:** Personal saving rate is the percentage of after-tax (disposable) income that was not spent and is based on the National Income and Product Accounts (NIPAs) data.

**Source:** U.S. Department of Commerce, Bureau of Economic Analysis.

Postsecondary education is an investment with a high average rate of return, but it involves considerable risk. Some of the variation in outcomes is predictable, but some of it is the result of unforeseen circumstances.

Relying on averages for estimating how much people can afford to pay for college out of their future incomes is more problematic than relying on averages to estimate how much of their pre-college resources people can devote to postsecondary education because of the uncertainty involved. Some people will end up with no earnings premium at all. But a meaningful concept of affordability has to be based on averages with the understanding that some people will, in the end, not to be able to afford what looked in advance like a good investment.

The question of whether someone has the resources to pay for education is not the same as the question of how high the return to the investment in education is. People

who are wealthy before and/or after college can pay for expensive educations whether or not those educations increase their earnings. Other people may in fact increase their lifetime earnings by an amount that exceeds the cost of their education, making them financially better off as a result of the education—but still have great difficulty paying the bills. Their incomes, even with the earnings premium, may not be high enough to cover a reasonable standard of living.

Is college affordable for someone who has a lifetime after-tax earnings premium that exceeds the price of college (including the opportunity cost), but whose earnings are so low as to make her struggle to make ends meet? If she has extra disposable income that she would not have had if she had not continued her education, it is questionable to call college unaffordable. College is affordable because she is better off financially after paying for college than she would have been if she had passed on the opportunity. But even with college, her income will be too

**Table 8:** Median Net Worth of Households by Income Percentile, 1989 to 2010

Median Net Worth in Current Dollars								
Percentile of Income	1989	1992	1995	1998	2001	2004	2007	2010
Lower than 20th	\$1,800	\$4,000	\$6,000	\$5,800	\$7,900	\$7,500	\$8,100	\$6,200
20–39.9	\$24,100	\$27,800	\$33,500	\$33,100	\$37,400	\$33,700	\$37,800	\$25,600
40–59.9	\$41,600	\$39,600	\$46,400	\$53,400	\$63,700	\$72,000	\$88,100	\$65,900
60–79.9	\$66,500	\$75,700	\$76,100	\$112,300	\$144,300	\$160,000	\$205,800	\$128,600
80–89.9	\$132,000	\$115,700	\$128,100	\$188,500	\$263,100	\$313,700	\$356,200	\$286,600
90–100	\$388,500	\$363,700	\$355,600	\$452,400	\$833,600	\$929,600	\$1,119,000	\$1,194,300
90–100 / 40–60	9.3	9.2	7.7	8.5	13.1	12.9	12.7	18.1

**Source:** Federal Reserve Bank, Survey of Consumer Finances.

low for a comfortable lifestyle and her loan payments may be “unaffordable.”

The problem here is that a significant number of people in our economy—including some with postsecondary education—do not earn enough to have discretionary income. Clearly if college were free, they would be better off financially (assuming others bore the tax burden required to finance the free education). The same is true of housing or any other necessity. In the example above, college more than paid for itself, so deeming it unaffordable is not logical. But since basic necessities are unaffordable, additional expenses are also problematic.

### Payments for College Out of the Earnings Premium

In 2012, median earnings of all workers between the ages 25 and 34 with associate degrees were about \$5,400 higher than median earnings of those with high school diplomas (\$30,900 vs. \$25,500). After accounting for taxes paid, this differential shrinks to about \$4,000.<sup>25</sup>

With an earnings increment of \$4,000 a year for a 40-year work life, how much could an individual afford to pay for education? Suppose we assume that half of the earnings premium can go to pay for education, while the other half supports an increased standard of living.

That would allow for payments of \$2,000 a year. Clearly, the length of time over which the payments are made is relevant. Suppose we limit the payments to 20 years. At an interest rate of 6.8%, this worker could pay down a debt about \$22,000 over 20 years.<sup>26</sup>

There are many judgment calls in this example. A higher interest rate reduces the amount the borrower can repay. A longer repayment period increases the manageable debt. Perhaps the most critical question is how much of the earnings premium the borrower should be expected to devote to education.

Table 9 shows what percentage of the average earnings differential between high school graduates and four-year college graduates would be needed to make the loan payments required for different amounts of debt at different interest rates. Notably, the average debt of bachelor’s degree recipients in 2011-12 who borrowed was about \$30,000.<sup>27</sup> Paying off that debt at 6.8% interest over 10 years requires only 25% of the average monthly earnings premium.

These illustrative examples suggest that current problems are not a function of education debt actually being disproportionate to the typical college earnings

premium. Rather, the variation in outcomes, which leaves some graduates with relatively low earnings, is a central issue.<sup>28</sup> Moreover, the earnings levels associated with sub-baccalaureate credentials may generate problems even if they represent significant advantages relative to high school graduates.

The \$30,900 median earnings of associate degree holders on which the example above is based is 2.7 times the 2013 poverty guideline for a single person, but it is only 1.3 times the poverty level for a family of four—less

than the minimal amount cited above on which a family can reasonably manage. In other words, the range of post-college circumstances clouds the concept of college affordability. Even the significant earnings premium from college is frequently not enough to generate a comfortable standard of living. The dilemma is that while the higher earnings do afford people the possibility of paying for college and still being better off than without the degree, the payments do not seem affordable, because even without the payments, the earnings are inadequate.

**Table 9:** Monthly Loan Payment Amount by Repayment Period, Interest Rate, and Loan Amount

Loan Amount	10-Year Repayment Plan Interest Rate			15-Year Repayment Plan Interest Rate			20-Year Repayment Plan Interest Rate		
	3.4%	5.0%	6.8%	3.4%	5.0%	6.8%	3.4%	5.0%	6.8%
Monthly Loan Payment									
\$20,000	\$196	\$211	\$229	\$142	\$158	\$177	\$115	\$131	\$152
\$30,000	\$294	\$317	\$343	\$212	\$236	\$265	\$172	\$197	\$228
\$40,000	\$393	\$423	\$458	\$283	\$315	\$353	\$229	\$263	\$304
\$50,000	\$491	\$528	\$572	\$354	\$394	\$441	\$287	\$329	\$380
Monthly Loan Payment as a Percentage of Monthly College Earnings Premium for All Workers Ages 25 to 34*									
\$20,000	14%	16%	17%	10%	12%	13%	8%	10%	11%
\$30,000	22%	23%	25%	16%	17%	19%	13%	14%	17%
\$40,000	29%	31%	34%	21%	23%	26%	17%	19%	22%
\$50,000	36%	39%	42%	26%	29%	32%	21%	24%	28%

**Note:** In this simplified example, the college earnings premium is calculated as the difference between the 2012 median earnings of all workers whose highest degree is a bachelor's degree and all workers whose highest degree is a high school diploma.

**Sources:** U.S. Census Bureau, Income, Poverty and Health Insurance in the United States: 2012, PINC-03, [http://www.census.gov/hhes/www/cpstables/032013/perinc/pinc03\\_000.htm](http://www.census.gov/hhes/www/cpstables/032013/perinc/pinc03_000.htm); calculations by the authors.

## Section 6: Developing Metrics

Meaningful metrics for assessing changes in college affordability over time cannot draw bright lines between what is affordable and what is not. Preferences and priorities vary considerably across students and families. Some families with very low incomes contribute to their children's education because they consider it so important. They are willing to eat less, to forgo entertainment, to have smaller wardrobes in order to assure this opportunity for their children. For other families, any contribution to education seems unaffordable unless it comes after restaurant meals once a week, annual vacations, and clothes that make their children feel that they fit in with their peers. Maybe even a new car every few years.

Some families will stretch to send their children to the best school they can get into. Others will see no value to paying more than the tuition at the local community college. Families in very similar financial circumstances will make very different judgments about what they are willing to sacrifice and about what is affordable.

This subjectivity, combined with the complexities highlighted in the discussion above, suggests that the most constructive approach is to develop a set of indicators that can be monitored over time to assess the financial accessibility of postsecondary education for students in different circumstances. Precise specification of the best available set of indicators will require further research and analysis, but the ideas discussed here lay the groundwork for this endeavor.

Below is a list of indicators that should be monitored over time, and should be examined in relation to one another. We have presented examples of some of these indicators throughout the paper. Additional examples are shown in the Appendix.

### Prices

- Average tuition and fees by sector by state
- Average tuition and fees by Carnegie classification within sectors
- Average room and board charges
- Housing and food prices by geographical area
- Textbook prices
- Net prices for students with different characteristics at different types of institutions
- Changes in college prices relative to prices of other goods and services

### Earnings

- Earnings by educational attainment for full-time workers, all workers, and members of the labor force
- Earnings by educational attainment by geographical area and by age
- Average earnings for different levels of educational attainment and the variation in earnings
- Expected earnings incorporating probabilities of completing different types of credentials for students in different circumstances

### Other resources

- Discretionary income
- Net worth by age, income, and other characteristics
- Saving rates
- Inequality of income and net worth

### Student debt

- Percentage of students with education debt and distribution of debt levels for students with different characteristics at different types of institutions
- Loan payments relative to earnings premium



## Section 7: Summary

To better understand and measure college affordability we should focus on students and what they can afford to pay for education. We should expect that students will rely on a combination of their own resources at the time they enroll, the expected earnings premium resulting from their postsecondary education, and the subsidies their parents should be able to provide.

There will never be one answer to how affordable college is or how that affordability is changing. Different educational opportunities come with a wide range of prices and the net prices individual students pay for the same institutions and programs also vary widely. Individuals and families have different preferences and priorities, making college expenses look very different even to students in similar financial circumstances.

But the complexity of the issue need not prevent the constructive collection and dissemination of data that paint a fairly complete picture of the financial accessibility of different postsecondary options for students in different circumstances.

A constructive next step would be to compile available data on the variables discussed in this paper and to analyze them and the relationships among them in a way that presents a coherent picture of college affordability over time.



## Endnotes

- 1 The College Board (2013), Annual Survey of Colleges.
- 2 Cooperative Institutional Research Program (CIRP) (2011), *Completing College: Assessing Graduation Rates at Four-Year Institutions*, HERI Research Brief, <http://heri.ucla.edu/DARCU/CompletingCollege2011.pdf>.
- 3 See, e.g. Vicki Choitz and Patrick Reimherr, *Mind the Gap: High Unmet Financial Need Threatens Persistence and Completion for Low-Income Community College Students*, CLASP, April 2013, <http://www.clasp.org/resources-and-publications/publication-1/CLASP-Unmet-Need-Brief-041213-final-ab-2.pdf>; TICAS, *Quick Facts About Financial Aid and Community Colleges, 2007-08*, May 2009, [http://www.ticas.org/files/pub/cc\\_fact\\_sheet.pdf](http://www.ticas.org/files/pub/cc_fact_sheet.pdf); Kevin Carey and Erin Dillon, *Drowning in Debt: The Emerging Student Loan Crisis*, Education Sector, July 8, 2009, <http://www.educationsector.org/publications/drowning-debt-emerging-student-loan-crisis>.
- 4 Unmet need is usually defined as in excess of federal student loans, in addition to grant aid. These loans might be taken as a rough approximation of the amount the student can reasonably be expected to contribute out of future earnings, but it is somewhat arbitrary to define affordability as based on the federal student loan limits, or on the amount of those loans the student chooses to take. Unmet need should probably be defined to account for federal tax credits, which diminish the price the student is actually paying for college, but this is not general practice.
- 5 <http://collegecost.ed.gov/catc/>.
- 6 Marc Joseph, September 17, 2013, [http://www.huffingtonpost.com/marc-joseph/its-too-expensive-to-go-t\\_b\\_3935231.html](http://www.huffingtonpost.com/marc-joseph/its-too-expensive-to-go-t_b_3935231.html).
- 7 Dylan Matthews, August 26, 2013, <http://www.washingtonpost.com/blogs/wonkblog/wp/2013/08/26/introducing-the-tuition-is-too-damn-high/>.
- 8 See, for example, the NCHEMS Information Center, <http://www.higheredinfo.org/dbrowser/?level=nation&mode=map&state=0&submeasure=75>.
- 9 About 61 percent of independent undergraduates with dependents had EFC=\$0 in 2011-12 (National Center for Education Statistics [NCES], National Postsecondary Student Aid Study [NPSAS]: 2012, calculations from DataLab).
- 10 From a social perspective, the relevant issue is the increase in earnings (or the increased output) resulting from the education relative to the entire cost of providing that education. However, because the issue at hand is how much students (and families) can reasonably be expected to pay, we focus here only on the portion of the cost of education actually borne by students (and families), and not on the portion subsidized through tuition that is less than total cost or through financial aid.
- 11 The College Board (2013), *Trends in College Pricing 2013*, Table 2 and Table A2.
- 12 Bureau of Labor Statistics, Consumer Expenditure Survey, 2011–2012 Current Cross-Tabulated Tables, Age of reference person by income before taxes, under 25, Table 3600, <http://www.bls.gov/cex/2012/CrossTabs/sizbyage/aone.PDF>.
- 13 NCES, NPSAS: 2012, calculations from DataLab.
- 14 Sources: *The College Board, Trends in College Pricing 2013*, online Table 2; U.S. Census Bureau, Median and Average Sales Prices of New Homes Sold in the United States, <http://www.census.gov/const/uspricemon.pdf>.
- 15 The reality is more complicated, since houses are almost always financed through mortgages and interest rates also vary considerably over time, altering the monthly payments associated with any house price.
- 16 Source: Bureau of Labor Statistics, Consumer Price Index Customized Tables, <http://data.bls.gov/cgi-bin/dsrv?cu>.
- 17 Archibald and Feldman argue that college has not actually become less affordable as its price has risen relative to family incomes and to other goods and services. “Over any given span of years, once you account for all price changes and all changes in family income, can a family purchase

the exact same set of goods and services as before, and have more money left over to buy other things? If so, then no one is “forced” to drop out of college or to trade down to lower-priced educational alternatives. They may choose to attend different types of schools as the relative price of public versus private education changes, or as college tuition rises relative to automobiles or televisions. But if you can purchase the exact same basket of goods and services and then some, you are better off.” Robert Archibald and David Feldman, *The Anatomy of College Tuition*, American Council on Education, 2012, <http://www.acenet.edu/news-room/Documents/Anatomy-of-College-Tuition.pdf>.

- 18 The College Board (2013), *Trends in Student Aid 2013*, Figure 16a.
- 19 <http://oregonwfp.org/issues/debt-free-higher-education/>. Bills in the U.S. Senate and House of Representatives make similar proposals for the nation (<http://www.merkley.senate.gov/newsroom/press/release/?id=bb43fdf2-2a1d-4c7c-ba4f-eac1243f0670>; <https://www.govtrack.us/congress/bills/113/hr3959/text>).
- 20 In 1978, BLS convened an expert committee to study the concept of family budgets. The group recommended a descriptive approach to developing a “prevailing family standard” set at the median level of expenditures for families of four with two children. The “lower living standard” is two-thirds of that level and the “social minimum” is one half. The “social abundance standard” is 50 percent higher than the prevailing standard. A National Research Council panel also recommended tying budget standards to median expenditures (David Johnson, John Rogers, and Lucilla Tan, “A Century of Family Budgets in the United States,” *Monthly Labor Review*, May 2001, <http://www.bls.gov/opub/mlr/2001/05/art3full.pdf>).
- 21 Economic Policy Institute, <http://www.epi.org/resources/budget/>.
- 22 Choosing this percentage is arbitrary and it may be more reasonable to assume that at higher income levels, families can contribute a greater percentage of discretionary income while still sacrificing less utility than lower-income families.
- 23 When asked how much their parents have helped them with their tuition and living expenses while they are in school, on average students from families with incomes below \$30,000 report that their parents have contributed more than the calculated EFC, while those from higher-income families report parental support far lower than EFCs (NCES, NPSAS: 2012, calculations from DataLab).
- 24 Dylan, Skinner, and Zeldes (2004), Do the Rich Save More? *Journal of Political Economy*, 112(2), 397–444, Table 3, <https://www.dartmouth.edu/~jskinner/documents/DynanKEDotheRich.pdf>.
- 25 U.S. Census Bureau, Income, Poverty and Health Insurance in the United States: 2012, PINC-03, [http://www.census.gov/hhes/www/cpstables/032013/perinc/pinc03\\_000.htm](http://www.census.gov/hhes/www/cpstables/032013/perinc/pinc03_000.htm); calculations by the authors.
- 26 This example and the one shown in Table 9 are based on all workers between the ages of 25 and 34. They are illustrative and more precise estimates would require incorporating earnings differentials at older ages.
- 27 Source: NCES, NPSAS: 2012.
- 28 For detailed discussion of the variation in post-college earnings, see Sandy Baum, Charles Kurose, and Jennifer Ma (2013), *How College Shapes Lives: Understanding the Issues*, The College Board.

## **Appendix: Additional Examples of Potential Indicators of College Affordability**

This Appendix includes examples of the types of indicators that should be included in a comprehensive measure of college affordability. Other indicators are in Figures 1 through 5 and Tables 1 through 9 in the body of the paper.

**Table A1: Average Published Tuition and Fees and Room and Board in 2013 Dollars, by Sector, 1983-84 to 2013-14**

	Tuition and Fees in 2013 Dollars			Room and Board in 2013 Dollars	
	Private Nonprofit Four-Year	Public Four-Year	Public Two-Year	Private Nonprofit Four-Year	Public Four-Year
1983-84	\$11,909	\$2,684	\$1,235	\$6,234	\$5,343
1988-89	\$15,778	\$3,111	\$1,575	\$7,207	\$5,671
1993-94	\$17,806	\$4,101	\$2,014	\$7,746	\$5,948
1998-99	\$21,054	\$4,648	\$2,224	\$8,236	\$6,473
2003-04	\$24,071	\$5,900	\$2,425	\$9,028	\$7,475
2008-09	\$26,356	\$7,008	\$2,530	\$9,539	\$8,255
2013-14	\$30,094	\$8,893	\$3,264	\$10,823	\$9,498
1983-84 to 1993-94	50%	53%	63%	24%	11%
1993-94 to 2003-04	35%	44%	20%	17%	26%
2003-04 to 2013-14	25%	51%	35%	20%	27%
2003-04 to 2008-09	9%	19%	4%	6%	10%
2008-09 to 2013-14	14%	27%	29%	13%	15%

**Source:** The College Board, *Trends in College Pricing 2013*, online Table 2.

**Table A2: Average Published and Net Tuition and Fees (TF) in 2013 Dollars,  
by Sector, 1993-94 to 2013-14**

	Public Two-Year In-State		Public Four-Year In-State		Private Nonprofit Four-Year	
	Published TF	Net TF	Published TF	Net TF	Published TF	Net TF
1993-94	\$2,010	\$600	\$4,100	\$2,040	\$17,810	\$10,230
1994-95	\$2,060	\$580	\$4,260	\$2,020	\$18,450	\$10,490
1995-96	\$2,040	\$470	\$4,310	\$1,930	\$18,710	\$10,530
1996-97	\$2,180	\$520	\$4,430	\$1,980	\$19,330	\$10,990
1997-98	\$2,280	\$300	\$4,530	\$1,810	\$20,060	\$11,220
1998-99	\$2,220	-\$230	\$4,650	\$1,560	\$21,050	\$11,640
1999-2000	\$2,310	-\$260	\$4,710	\$1,500	\$21,750	\$12,070
2000-01	\$2,220	-\$380	\$4,740	\$1,380	\$21,730	\$12,010
2001-02	\$2,120	-\$580	\$4,960	\$1,390	\$22,870	\$13,080
2002-03	\$2,170	-\$580	\$5,320	\$1,520	\$23,420	\$13,410
2003-04	\$2,420	-\$420	\$5,900	\$1,920	\$24,070	\$13,600
2004-05	\$2,560	-\$230	\$6,320	\$2,210	\$24,720	\$13,860
2005-06	\$2,610	-\$50	\$6,570	\$2,460	\$25,080	\$13,910
2006-07	\$2,600	\$30	\$6,660	\$2,450	\$25,610	\$14,110
2007-08	\$2,570	\$20	\$6,940	\$2,590	\$26,260	\$14,320
2008-09	\$2,530	-\$400	\$7,010	\$2,420	\$26,360	\$13,550
2009-10	\$2,790	-\$1,250	\$7,670	\$1,940	\$27,920	\$12,420
2010-11	\$2,940	-\$1,680	\$8,170	\$2,070	\$28,680	\$11,730
2011-12	\$3,070	-\$1,680	\$8,560	\$2,820	\$28,830	\$11,550
2012-13	\$3,220	-\$1,590	\$8,820	\$3,050	\$29,560	\$11,930
2013-14	\$3,260	-\$1,550	\$8,890	\$3,120	\$30,090	\$12,460

**Note:** Numbers have been rounded to the nearest \$10.

**Source:** The College Board, *Trends in College Pricing 2013*, online Tables 7 and 8.

**Table A3: Average Published and Net Tuition and Fees (TF) and Cost of Attendance (COA) in 2011 Dollars, by Sector and Family Income Quartile of Full-Time Dependent Students, 1999-2000 to 2011-12**

	Public Two-Year				Public Four-Year			
Lowest Income Quartile	1999-2000	2003-04	2007-08	2011-12	1999-2000	2003-04	2007-08	2011-12
Net TF	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Net COA	\$7,672	\$7,656	\$7,752	\$8,065	\$9,620	\$10,280	\$10,590	\$11,854
Published TF	\$1,949	\$2,122	\$2,404	\$2,608	\$4,939	\$6,200	\$6,687	\$8,256
Published COA	\$11,160	\$11,730	\$12,434	\$13,756	\$15,467	\$17,643	\$19,277	\$21,689
Second Income Quartile	1999-2000	2003-04	2007-08	2011-12	1999-2000	2003-04	2007-08	2011-12
Net TF	\$530	\$328	\$502	\$0	\$1,785	\$2,175	\$1,473	\$2,325
Net COA	\$9,746	\$9,746	\$10,614	\$10,942	\$12,498	\$13,621	\$13,785	\$15,832
Published TF	\$2,290	\$2,389	\$2,580	\$2,854	\$5,478	\$6,458	\$7,153	\$8,992
Published COA	\$11,506	\$11,807	\$12,693	\$14,103	\$16,191	\$17,904	\$19,465	\$22,498
Third Income Quartile	1999-2000	2003-04	2007-08	2011-12	1999-2000	2003-04	2007-08	2011-12
Net TF	\$1,509	\$1,700	\$1,963	\$1,900	\$4,114	\$4,482	\$5,066	\$6,417
Net COA	\$11,041	\$11,482	\$12,409	\$13,292	\$15,059	\$16,069	\$17,631	\$20,086
Published TF	\$2,157	\$2,542	\$2,709	\$2,950	\$5,863	\$6,690	\$7,730	\$9,384
Published COA	\$12,201	\$12,324	\$13,155	\$14,343	\$16,807	\$18,277	\$20,294	\$23,053
Highest Income Quartile	1999-2000	2003-04	2007-08	2011-12	1999-2000	2003-04	2007-08	2011-12
Net TF	\$1,538	\$1,812	\$2,114	\$2,051	\$5,067	\$5,797	\$6,610	\$8,346
Net COA	\$11,239	\$11,521	\$12,760	\$13,795	\$16,284	\$17,840	\$19,639	\$22,525
Published TF	\$1,980	\$2,495	\$2,602	\$2,867	\$6,509	\$7,587	\$8,682	\$10,921
Published COA	\$11,681	\$12,205	\$13,248	\$14,611	\$17,726	\$19,630	\$21,711	\$25,101
	Private Nonprofit Four-Year				For-Profit			
Lowest Income Quartile	1999-2000	2003-04	2007-08	2011-12	1999-2000	2003-04	2007-08	2011-12
Net TF	\$4,387	\$6,688	\$6,370	\$4,971	\$6,676	\$7,424	\$9,880	\$11,297
Net COA	\$14,735	\$18,348	\$18,702	\$19,360	\$18,411	\$18,345	\$22,127	\$24,173
Published TF	\$16,542	\$20,117	\$22,797	\$27,798	\$11,357	\$14,115	\$14,802	\$17,630
Published COA	\$26,890	\$31,777	\$35,130	\$42,187	\$23,093	\$25,036	\$27,050	\$30,506
Second Income Quartile	1999-2000	2003-04	2007-08	2011-12	1999-2000	2003-04	2007-08	2011-12
Net TF	\$8,553	\$9,660	\$10,191	\$8,609	\$9,891	\$10,692	\$14,874	\$13,718
Net COA	\$19,809	\$21,498	\$22,633	\$22,748	\$21,827	\$21,860	\$27,662	\$27,063
Published TF	\$20,374	\$22,168	\$25,050	\$28,964	\$12,949	\$14,614	\$17,585	\$17,931
Published COA	\$31,630	\$34,006	\$37,492	\$43,103	\$24,884	\$25,782	\$30,373	\$31,276
Third Income Quartile	1999-2000	2003-04	2007-08	2011-12	1999-2000	2003-04	2007-08	2011-12
Net TF	\$11,383	\$12,875	\$14,703	\$13,974	\$12,969	\$12,658	\$16,811	\$18,046
Net COA	\$22,893	\$24,855	\$27,485	\$28,519	\$24,450	\$24,340	\$30,345	\$32,012
Published TF	\$21,717	\$23,442	\$26,677	\$29,363	\$14,126	\$14,836	\$17,738	\$19,291
Published COA	\$33,226	\$35,422	\$39,459	\$43,908	\$26,764	\$26,518	\$31,273	\$33,257
Highest Income Quartile	1999-2000	2003-04	2007-08	2011-12	1999-2000	2003-04	2007-08	2011-12
Net TF	\$17,769	\$19,510	\$20,339	\$19,724	\$14,076	\$13,830	\$17,578	\$17,463
Net COA	\$29,763	\$31,973	\$33,745	\$34,962	\$27,462	\$26,492	\$34,028	\$33,044
Published TF	\$24,097	\$26,986	\$28,822	\$32,213	\$14,929	\$15,384	\$17,740	\$19,335
Published COA	\$36,091	\$39,449	\$42,228	\$47,451	\$28,316	\$28,046	\$34,189	\$34,916

**Note:** Grant aid includes grants from all sources and veterans' benefits, but not federal tax credits and deductions. Income categories for each year: lowest: less than \$30,000; second: \$30,000 to \$64,999; third: \$65,000 to \$105,999; highest: \$106,000 or higher (all in 2011 dollars). Because of the small sample size, grant aid estimates for the highest-income group in the for-profit sector are unstable and should be interpreted with caution. **Source:** NCES, NPSAS: 2000, 2004, 2008, and 2012.

**Table A4: Average Published In-State Tuition and Fees in 2013 Dollars at Public Four-Year Institutions, by State, 2008-09 and 2013-14**

	2013-14	2008-09	Five-Year Percentage Increase	Five-Year Dollar Increase in 2013 Dollars
<b>U.S.</b>	<b>\$8,893</b>	<b>\$7,008</b>	<b>27%</b>	<b>\$1,885</b>
Alaska	\$5,885	\$4,968	18%	\$917
Alabama	\$9,143	\$6,338	44%	\$2,805
Arizona	\$10,065	\$5,930	70%	\$4,135
Arkansas	\$7,238	\$6,281	15%	\$957
Arizona	\$10,065	\$5,930	70%	\$4,135
California	\$9,037	\$5,773	57%	\$3,264
Colorado	\$9,096	\$6,151	48%	\$2,945
Connecticut	\$10,206	\$8,536	20%	\$1,670
Delaware	\$11,261	\$8,805	28%	\$2,456
Florida	\$6,336	\$4,062	56%	\$2,274
Georgia	\$7,823	\$4,729	65%	\$3,094
Hawaii	\$9,097	\$6,184	47%	\$2,913
Iowa	\$7,841	\$6,832	15%	\$1,009
Idaho	\$6,325	\$4,898	29%	\$1,427
Illinois	\$12,550	\$10,642	18%	\$1,908
Indiana	\$8,916	\$7,670	16%	\$1,246
Kansas	\$7,729	\$6,382	21%	\$1,347
Kentucky	\$8,692	\$7,231	20%	\$1,461
Louisiana	\$6,546	\$4,325	51%	\$2,221
Massachusetts	\$10,792	\$8,750	23%	\$2,042
Maryland	\$8,475	\$7,850	8%	\$625
Maine	\$9,391	\$8,579	9%	\$812
Michigan	\$11,600	\$9,696	20%	\$1,904
Minnesota	\$10,468	\$8,832	19%	\$1,636
Missouri	\$8,093	\$7,676	5%	\$417
Mississippi	\$6,558	\$5,254	25%	\$1,304
Montana	\$6,211	\$5,667	10%	\$544
North Carolina	\$6,514	\$4,663	40%	\$1,851
North Dakota	\$7,265	\$6,485	12%	\$780
Nebraska	\$7,315	\$6,325	16%	\$990
New Hampshire	\$14,665	\$10,931	34%	\$3,734
New Jersey	\$12,715	\$11,414	11%	\$1,301

	2013-14	2008-09	Five-Year Percentage Increase	Five-Year Dollar Increase in 2013 Dollars
New Mexico	\$5,987	\$4,800	25%	\$1,187
Nevada	\$6,387	\$4,669	37%	\$1,718
New York	\$6,919	\$5,438	27%	\$1,481
Ohio	\$9,906	\$8,999	10%	\$907
Oklahoma	\$6,583	\$5,991	10%	\$592
Oregon	\$8,605	\$6,626	30%	\$1,979
Pennsylvania	\$12,802	\$10,995	16%	\$1,807
Rhode Island	\$10,922	\$8,206	33%	\$2,716
South Carolina	\$11,138	\$9,698	15%	\$1,440
South Dakota	\$7,717	\$6,051	28%	\$1,666
Tennessee	\$8,036	\$6,038	33%	\$1,998
Texas	\$8,522	\$7,348	16%	\$1,174
Utah	\$5,906	\$4,540	30%	\$1,366
Virginia	\$10,366	\$8,051	29%	\$2,315
Vermont	\$13,958	\$12,044	16%	\$1,914
Washington	\$10,811	\$6,832	58%	\$3,979
Wisconsin	\$8,736	\$7,217	21%	\$1,519
West Virginia	\$6,251	\$4,999	25%	\$1,252
Wyoming	\$4,404	\$3,845	15%	\$559

**Source:** The College Board, *Trends in College Pricing 2013*, online Table 5.



**Table A5: Median Earnings of Full-Time Workers Ages 25 to 34 by Gender and Educational Attainment, 1971 to 2011, Selected Years**

	Men			Women			BA/HS		Male/Female	
	High School Diploma (including GED)	Some College or Associate Degree	Bachelor's Degree or Higher	High School Diploma (including GED)	Some College or Associate Degree	Bachelor's Degree or Higher	Men	Women	HS	BA or Higher
1971	\$51,406	\$55,945	\$64,041	\$31,530	\$35,946	\$45,133	1.25	1.43	1.63	1.42
1976	\$49,170	\$53,343	\$59,497	\$31,647	\$35,369	\$43,132	1.21	1.36	1.55	1.38
1981	\$44,233	\$47,916	\$55,395	\$29,087	\$33,174	\$40,673	1.25	1.40	1.52	1.36
1986	\$42,029	\$48,051	\$59,911	\$29,727	\$34,325	\$45,050	1.43	1.52	1.41	1.33
1991	\$37,152	\$43,740	\$58,088	\$28,824	\$34,265	\$44,880	1.56	1.56	1.29	1.29
1996	\$36,602	\$40,875	\$55,289	\$27,634	\$32,426	\$43,622	1.51	1.58	1.32	1.27
2001	\$37,147	\$44,504	\$60,852	\$28,517	\$33,375	\$47,800	1.64	1.68	1.30	1.27
2006	\$35,203	\$40,830	\$56,945	\$26,363	\$32,430	\$46,597	1.62	1.77	1.34	1.22
2011	\$32,891	\$40,347	\$55,592	\$26,884	\$30,726	\$45,743	1.69	1.70	1.22	1.22
1971 to 1981	-14%	-14%	-14%	-8%	-8%	-10%				
1981 to 1991	-16%	-9%	5%	-1%	3%	10%				
1991 to 2001	0%	2%	5%	-1%	-3%	7%				
2001 to 2011	-11%	-9%	-9%	-6%	-8%	-4%				
2001 to 2006	-5%	-8%	-6%	-8%	-3%	-3%				
2006 to 2011	-7%	-1%	-2%	2%	-5%	-2%				

**Source:** Baum, Ma, and Payea (2013), *Education Pays 2013: The Benefits of Higher Education for Individuals and Society*, The College Board.

**Table A6: Average Total Debt Levels in 2012 Dollars, Bachelor's Degree Recipients at Public and Private Nonprofit Four-Year Colleges and Universities, 1999-2000 to 2011-12**

	Per Borrower	Per Bachelor's Degree Recipient	Percentage who Borrowed
<b>Public Four-Year</b>			
1999-00	\$20,800	\$11,200	54%
2000-01	\$20,400	\$10,600	52%
2001-02	\$20,500	\$10,600	52%
2002-03	\$20,900	\$11,000	53%
2003-04	\$21,000	\$11,400	54%
2004-05	\$21,500	\$11,800	55%
2005-06	\$21,800	\$12,100	55%
2006-07	\$21,500	\$11,900	55%
2007-08	\$21,500	\$11,900	55%
2008-09	\$21,100	\$11,700	55%
2009-10	\$23,200	\$13,000	56%
2010-11	\$24,200	\$13,900	57%
2011-12	\$25,000	\$14,300	57%
<b>Five-Year Percentage Change</b>			
2001-02 to 2006-07	5%	12%	
2006-07 to 2011-12	16%	20%	
<b>Private Nonprofit Four-Year</b>			
1999-00	\$23,800	\$15,000	63%
2000-01	\$23,700	\$14,800	63%
2001-02	\$24,200	\$15,400	64%
2002-03	\$25,400	\$16,100	63%
2003-04	\$25,900	\$16,500	64%
2004-05	\$27,500	\$17,700	64%
2005-06	\$28,600	\$18,600	65%
2006-07	\$28,700	\$19,000	66%
2007-08	\$27,800	\$18,200	65%
2008-09	\$27,800	\$18,000	65%
2009-10	\$29,300	\$19,200	66%
2010-11	\$30,400	\$20,000	66%
2011-12	\$29,900	\$19,500	65%
<b>Five-Year Percentage Change</b>			
2001-02 to 2006-07	19%	23%	
2006-07 to 2011-12	4%	3%	

**Source:** The College Board, *Trends in Student Aid 2013*, Figures 10a and 10b.

### **Contact Information for the Authors**

Sandy Baum, [sbaum@gwu.edu](mailto:sbaum@gwu.edu)

Jennifer Ma, [jma@collegeboard.org](mailto:jma@collegeboard.org)

